JEFFREY
MATERIAL HANDLING and MINING MACHINERY

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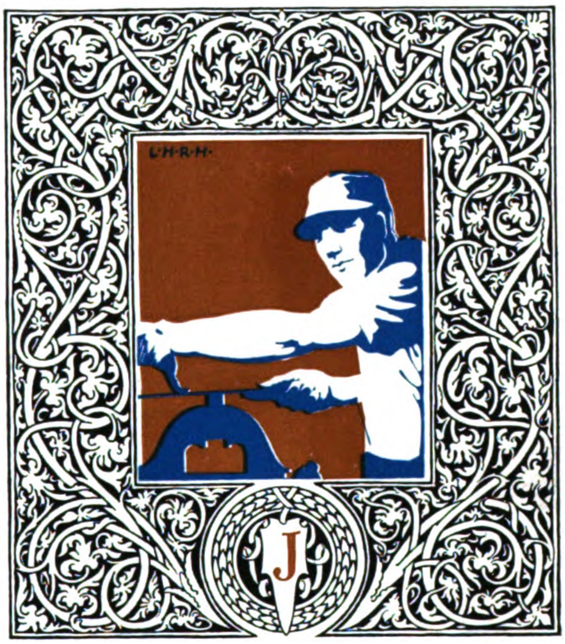
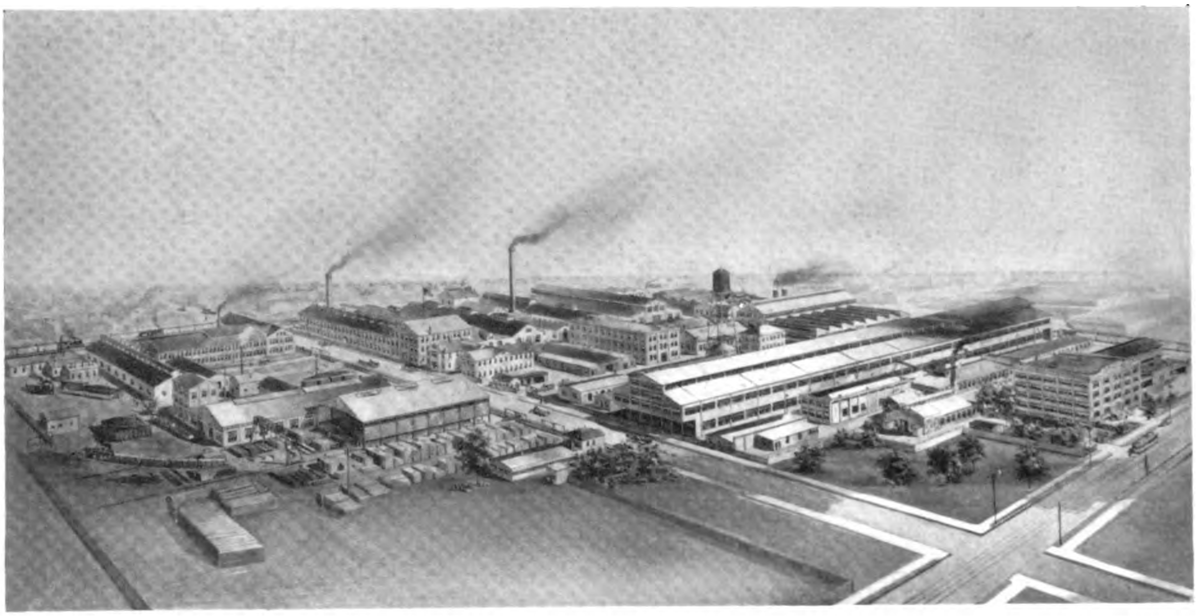


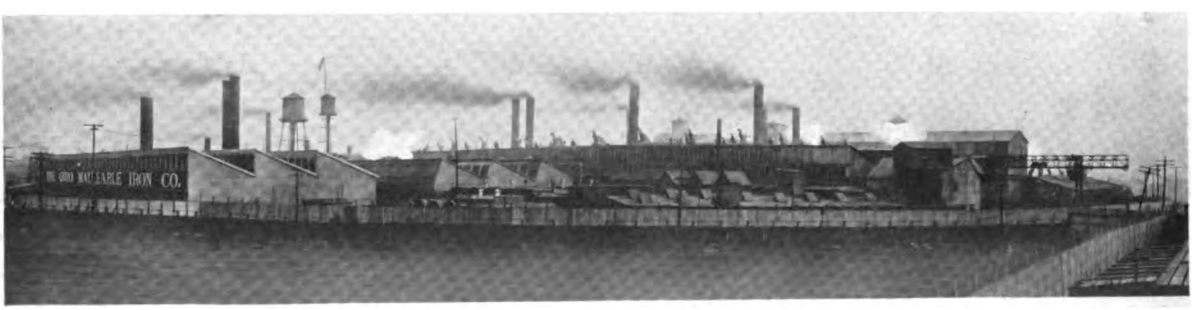
GENERAL CATALOG NUMBER 85

THE JEFFREY MANUFACTURING CO.
COLUMBUS · OHIO · U · S · A

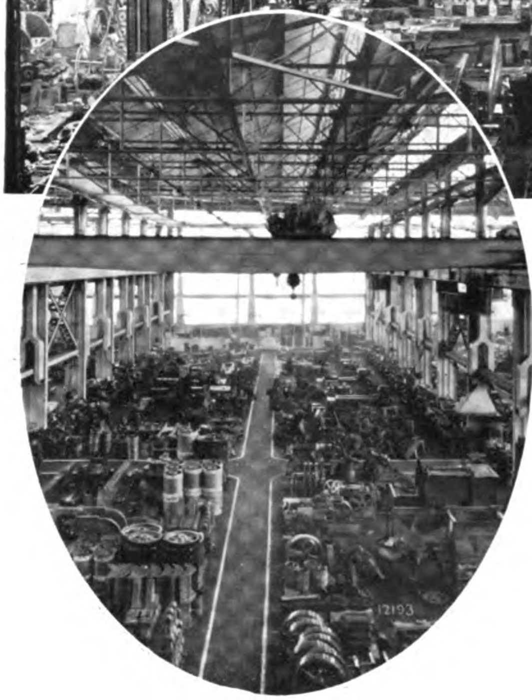


Main Office and Works of The Jeffrey Mfg. Co.

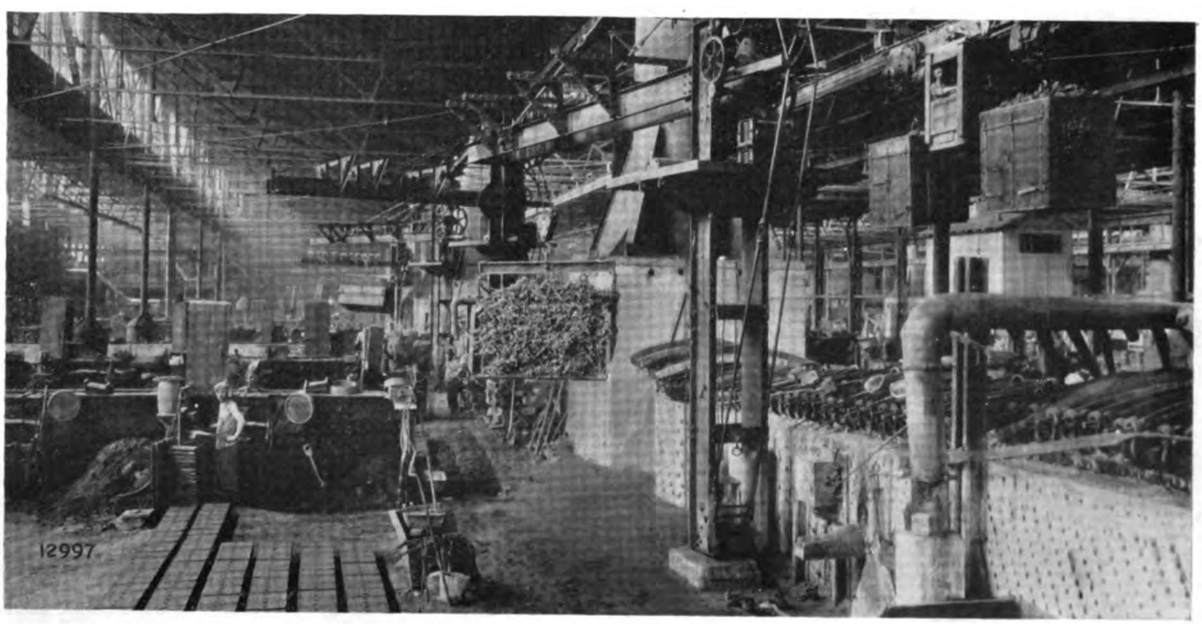
WORKS AND GENERAL OFFICES of the JEFFREY MFG. CO. COLUMBUS OHIO U · S · A ·



Malleable Iron Foundry of The Jeffrey Mfg. Co.



INTERIOR Views of the Jeffrey Machine and Assembly Shops and the Malleable Foundry. High Class Workmanship, coupled with modern manufacturing methods are an assurance of quality products.



Introduction

THE constantly increasing demand for standardized units of Jeffrey equipment has made necessary a larger and more comprehensive General Catalog than any we have heretofore published.

Users of Jeffrey products, therefore, will welcome this, our new General Catalog No. 85. Although it would not be practicable to combine between the covers of one volume the entire Jeffrey line in its various ramifications, we have succeeded in so arranging the different products in sectional classification that a comprehensive idea can readily be secured of the tremendous field served by Jeffrey equipment.

Great care has been taken to save you time in consulting this catalog. If, for example, you find in the section devoted to Power House equipment, a Scraper Conveyor installation that interests you, reference is made to the Section on Scraper Conveyors where will be found more detailed information. This applies to any section devoted to any product.

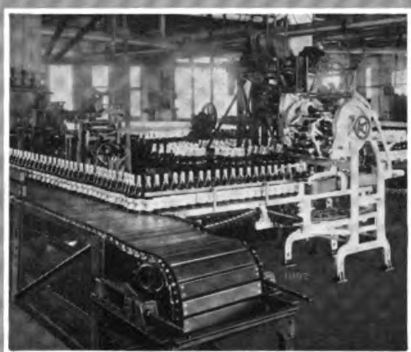
For more than forty years Jeffrey Elevating, Conveying and Mining Machinery has been a vital factor in every industry where materials are handled or where coal is mined. Its real purpose is to reduce handling costs, increase production and lighten the burden of labor. This catalog shows many conditions where Jeffrey Machinery is giving service in both the industrial and mining fields.

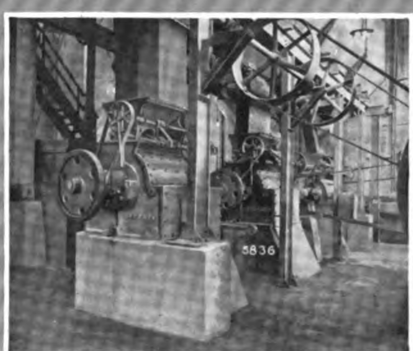
Typical layouts giving general dimensions accompany the tables of specifications for various equipments. The data shown permits of Jeffrey products being laid in on plans, thus eliminating possible delay due to requesting this information from the home office.

Due to the unstable conditions of markets, all prices have been omitted. A separate Price Bulletin applying to this Catalog will be issued as conditions warrant. This will insure against the cluttering up of this book with unnecessary lists and permit it to be used with greater facility for its pictorial and engineering phases.

Jeffrey engineers are specialists in their respective fields and they are ready to assist you with your engineering problems.

Some of the Many Industries Using Jeffrey Machinery





Bakeries

Conveyors and Elevators for Flour, Dough, Bread, Barrels, Bags and Boxes.

Bottling Works

Conveying Machinery for Boxes, Bottles, Grain, Bags, Barrels, Kegs, Ice, Coal and Ashes.

Brick Yards

Conveyors for Clay, Shale, Brick, Tile, Cement Block, Coal and Wood; Pulverizing Machinery.

Canneries

Conveyors for Raw and Finished Products; Peeling and Canning Tables.

Carbide Plants

Conveyors and Elevators for Raw and Finished Products, Coal and Ashes; Crushing Machinery.

Cement Mills

Conveying Machinery for Raw Materials and the Finished Cement; Pulverizers; also Manganoid Grinding Balls and Linings for Tube Mills.

Chains for All Industries

A complete line for all elevating and conveying purposes. See pages 423 to 528.

Chemical Works

Conveyors for Dry Bulk Materials; Barrels, Boxes, Cartons, Packages; Pulverizers.

Clay Works

Conveyors for Clay, Shale, Rock; Pulverizers.

Some of the Many Industries Using Jeffrey Machinery

Coal Mining

Complete Mine and Machinery Equipments—Coal Cutters, Electric Haulage Mine Locomotives, Mine Fans, Tipple Equipments.

Coal Yards

Coal Loading and Unloading Machinery, Portable Radial Loaders.

Coaling Stations

Complete Machinery Equipments; Track Hoppers and Loading Chutes; Crushers and Conveyors.

Coke Plants

Elevators and Conveyors for Coal and Coke; Crushing Machinery.

Contractors

Conveyors for Crushed Stone, Sand, Gravel, Lime, Brick, Lumber, Cement in Bags and Barrels; Pulverizers.

Cotton Seed Mills

Conveying and Elevating Machinery.

Dairy and Creameries

Conveying Machinery for Milk in Cans, Bottles; Crates, Boxes, Barrels and Firkins.

Docks

Freight and Coal, Stationary and Portable, Loading and Unloading Equipments.

Some of the Many Industries Using Jeffrey Machinery

Dredges

Sand and Gravel Elevating and Conveying Machinery; Tailing Stackers.

Fertilizer Plants

Conveyors and Elevators for Raw and Finished Products; Pulverizing Machinery; Fertilizer Loaders.

Filtration Plants

Conveying Machinery for Loose, Sacked and Bagged Chemicals, Coal and Ashes.

Fisheries

Elevators and Conveyors for Fish, Oysters, Clams and Shells; Pulverizers; Canning Tables.

Flour Mills

Elevators and Conveyors for Flour, Grain, Bags, Barrels.

Foundries

Conveyors for handling Sand, Small Castings and Flasks.

Garbage Disposal Plants

Elevating and Conveying Machinery for Green Garbage and Finished Products; Picking Tables and Pulverizers.

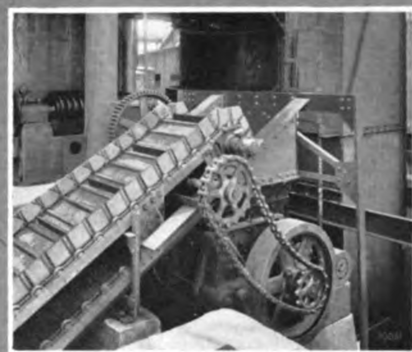
Gas Producer Plants

Conveyors for Coal, Coke and Purifying Materials; Crushers, Pulverizers and Boiler House Machinery.

Glass Works

Batch and Lehr Conveyors; Pulverizers and Boiler House Machinery.

Some of the Many Industries Using Jeffrey Machinery



Glue Factories

Elevators and Conveyors for Raw and Finished Products; Pulverizers.

Grain Mills

Elevators and Conveyors for Wheat, Oats, Corn, Bags, Barrels.

Ice Handling

Conveyors and Elevators for Natural and Artificial Ice; Loading Chutes.

Knitting Mills

Conveyors for Unfinished and Finished Products, Coal and Ashes.

Logging Industries; Lumber Handling

Haul-Ups for Logs; Conveyors for Lumber, Slabs, Planks, Shingles, Laths and Refuse.

Manufacturing Plants

Elevating and Conveying Machinery for all kinds of Finished and Unfinished Products, Barrels, Bags, Coal and Ashes.

Milling Industries

Conveyors and Elevators for Cereals and Finished Products, Barrels, Bags, Coal and Ashes.

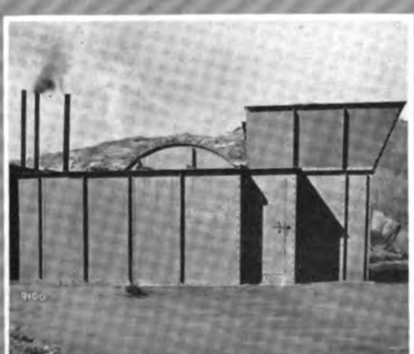
Mining Industries

General application of Conveying and Haulage Systems for all Mines. Also see "Coal Mining".

Packers

Conveying Machinery for Loose Materials, Barrels, Boxes, Cartons, Bags; Pulverizers.

Some of the Many Industries Using Jeffrey Machinery



Paint Works

Elevators and Conveyors for Finished and Unfinished Products, Kegs, Barrels, Bags and Boxes.

Paper and Pulp Mills

Conveying Machinery for handling Logs, Pulp Wood, Pulp Laps, Bark; Shredders, Pulverizers; Coal and Ashes Handling Machinery.

Potteries

Conveyors for Clay, Plaster, Finished Wares, Crates, Barrels, also Coal and Ashes.

Power Houses

Complete Machinery Equipments for Coal and Ashes; Coal Crushers; Weigh Larries; Bins and Chutes; Mechanical Draft Fans.

Quarries

Stone Elevators, Car Hauls, Screens, Pulverizers.

Rolling Mills

Conveying Machinery for Raw Materials, Plates, Billets and Scraps, also Coal and Ashes.

Rubber Industries

Elevating and Conveying Machinery for Raw and Finished Products, also Coal and Ashes; Pulverizers.

Salt Works

Conveyors for handling Salt in bulk and packages; Crushers and Loaders.

Sand and Gravel Plants

Complete Sand and Gravel Handling Equipments; Pulverizers, Loaders and Screens.

Some of the Many Industries Using Jeffrey Machinery

Saw Mills

Haul-Ups for Logs; Conveyors for Lumber, Slabs and Refuse.

Shoe and Last Factory

Conveying Machinery for handling Raw Materials and Finished Products, Boxes, Cartons, Coal and Ashes.

Smelters

Conveyors for handling Ores and other Materials.

Sugar Industry

Elevators and Conveyors for handling Cane, Bagasse, Barrels, Bags and Boxes; Cane Shredders.

Textile Mills

Conveyors for Finished and Unfinished Products, etc., also Coal and Ashes in Power Plants.

Tanneries and Extract Plants

Conveyors for handling Hides, Leather, Bark; Shredders.

Tipples, Coal

Complete Equipments, Elevators, Conveyors, Car Hauls, Picking Tables, Loading Booms, Screens, Pulverizers and Crushers.

Warehouses and Storage

Conveyors and Elevators for handling Barrels, Boxes, Bundles, Bags, Cartons, and Miscellaneous Freight.

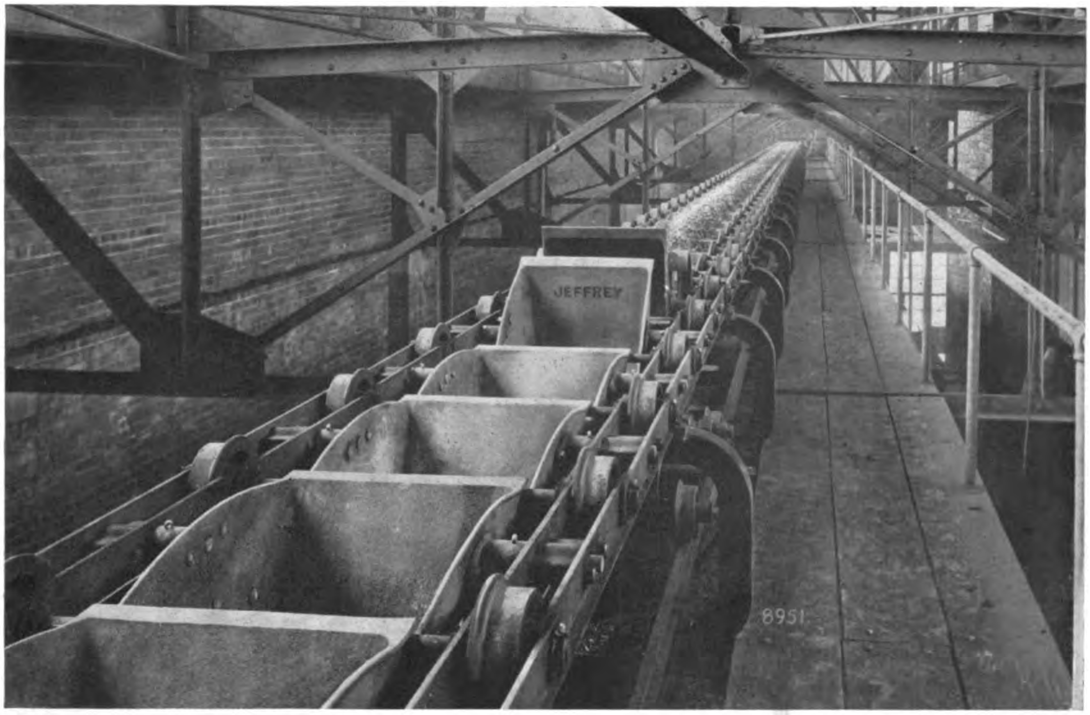
Wire Mills

Conveying Machinery for Raw and Finished Products, Bundles of Wire.

Boiler House Equipments

Section 1

Pivoted Bucket Carrier



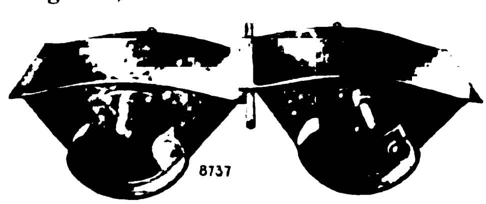
Upper Run of the Jeffrey Pivoted Bucket Carrier over bunkers

The Highest Type of Coal and Ashes Handling Equipment

YEARS of broad experience and study of Boiler House operation have enabled Jeffrey Engineers to produce in the Pivoted Bucket Carrier, the highest, most efficient and dependable type of Coal and Ash Handling Equipment. The design, workmanship and special methods used in the construction of this Carrier gives assurance of proper performance and long life.

Built in and around the complete sense of the terms Reliability and Long Service, the Jeffrey Carrier insures reliability in its action at all times, whether the installation outline be intricate, the surrounding conditions crude, or the attendant labor not of a high class. Reliability First has been considered paramount coupled with that material strength and hardness of wearing parts throughout, which means for long and satisfactory service from the installation as a whole.

The Jeffrey Carrier has a working principle which ordinarily combines in the one carrier the work of at least one elevator and two conveyors, in that it handles both coal and ashes. Pages 16 and 17 show a typical installation of the Carrier in detail.

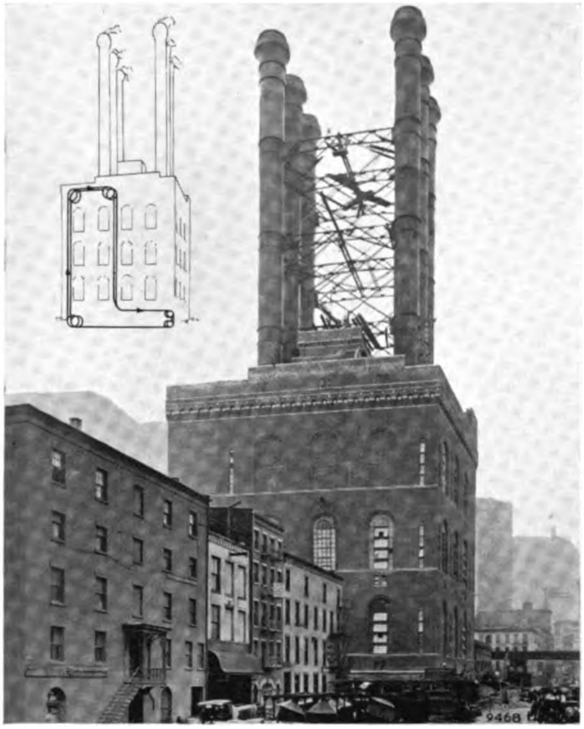


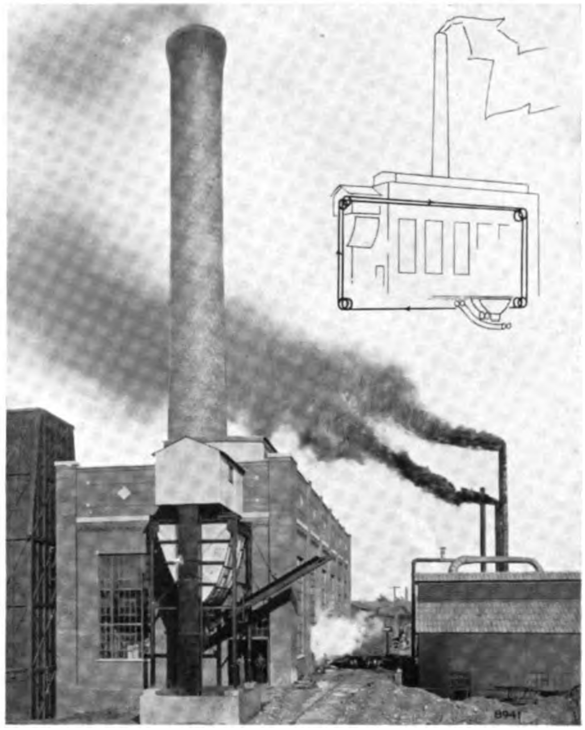
No Mechanical Loader Required with the Jeffrey Carrier

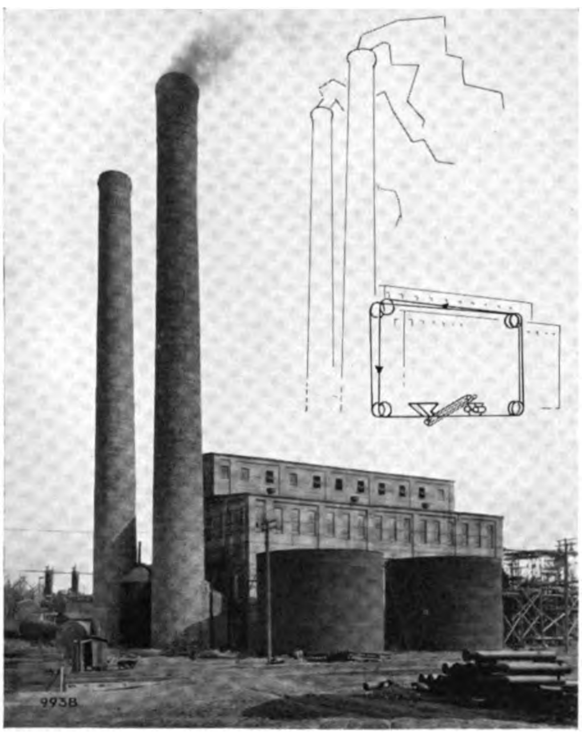
Along the horizontal and upon an incline the Jeffrey Carrier, by reason of the overlapping lips of its buckets, is virtually a continuous apron with depressions in its surface formed by the openings of the buckets. The Carrier therefore does not require an automatic loader to deposit a separate load into each bucket, but on the contrary permits a continuous stream of materials to be discharged onto the Conveyor.

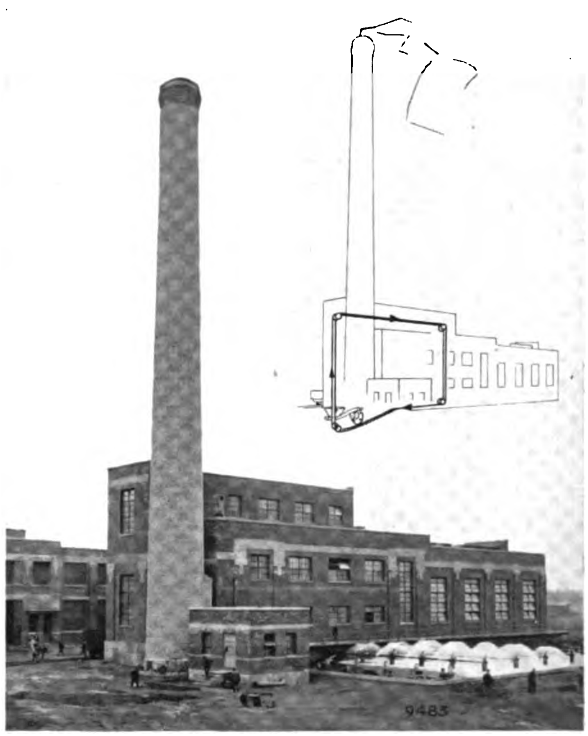
The economical installation of the Jeffrey Pivoted Bucket Carrier is usually a minimum capacity of 50 tons per hour of coal with a maximum capacity of al out 175 tons per hour.

Pivoted Bucket Carrier







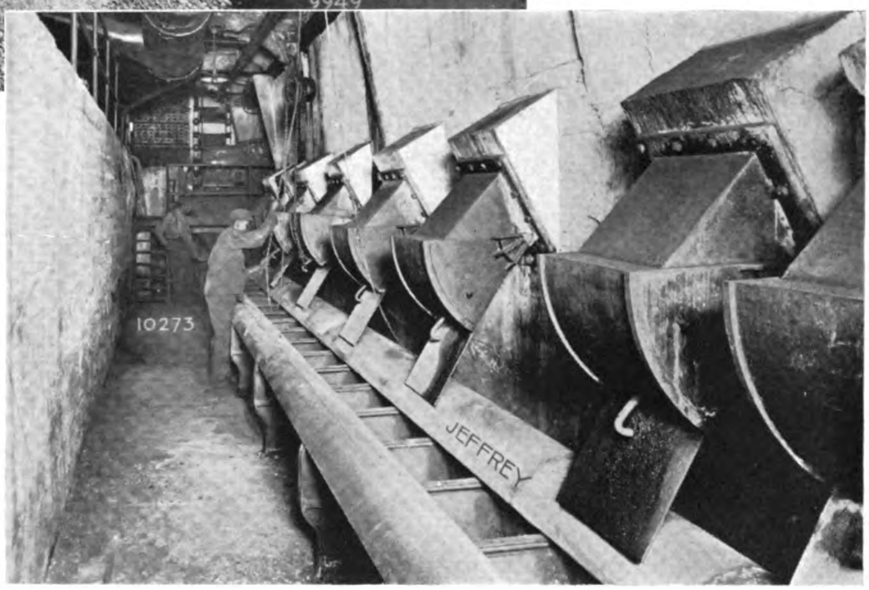


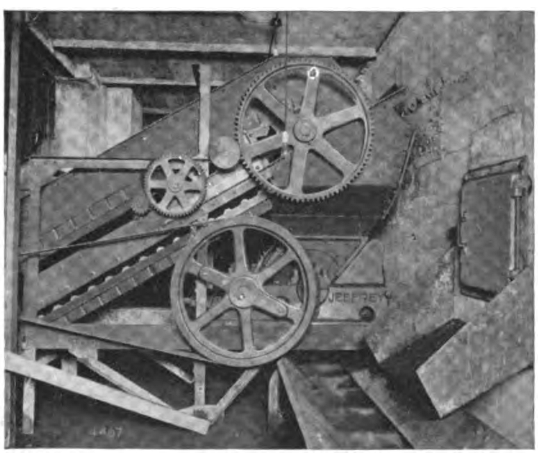
A few representative installations of Jeffrey Pivoted Bucket Carrier handling both coal and ashes. Diagrams show the flexibility of this conveyor, which makes it possible to do service in power plants of various designs.

Pivoted Bucket Carrier

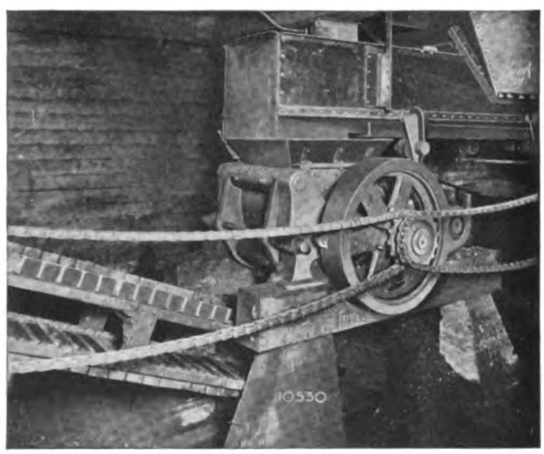
Upper Run of another installation of the Jeffrey Pivoted Bucket Carrier, showing how coal is discharged to bunker by means of a traveling tripper.

The right hand illustration shows the lower run of the Pivoted Bucket Carrier under the boilers for carrying ashes. The skirt boards shown form a trough which insures the materials handled being loaded along the center of the buckets and in connection with a trimmer, retards momentary overloads to uniform loads. The skirt boards also serve to protect the chains from grit and dirt, thereby materially adding to the life of the Carrier as a whole.



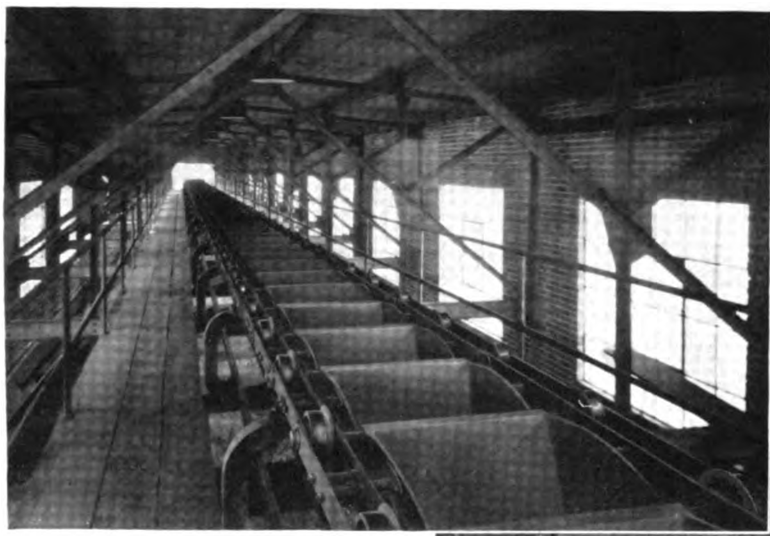


A Jeffrey Single Roll Crusher and Apron Feeder, installed with a Pivoted Bucket Carrier. For complete information on Crusher, see pages 565 to 582.



Another installation of Crusher with Plate Feeder from Track Hopper. Apron Conveyor is used as an intermediate conveyor to Pivoted Bucket Carrier.

Pivoted Bucket Carrier

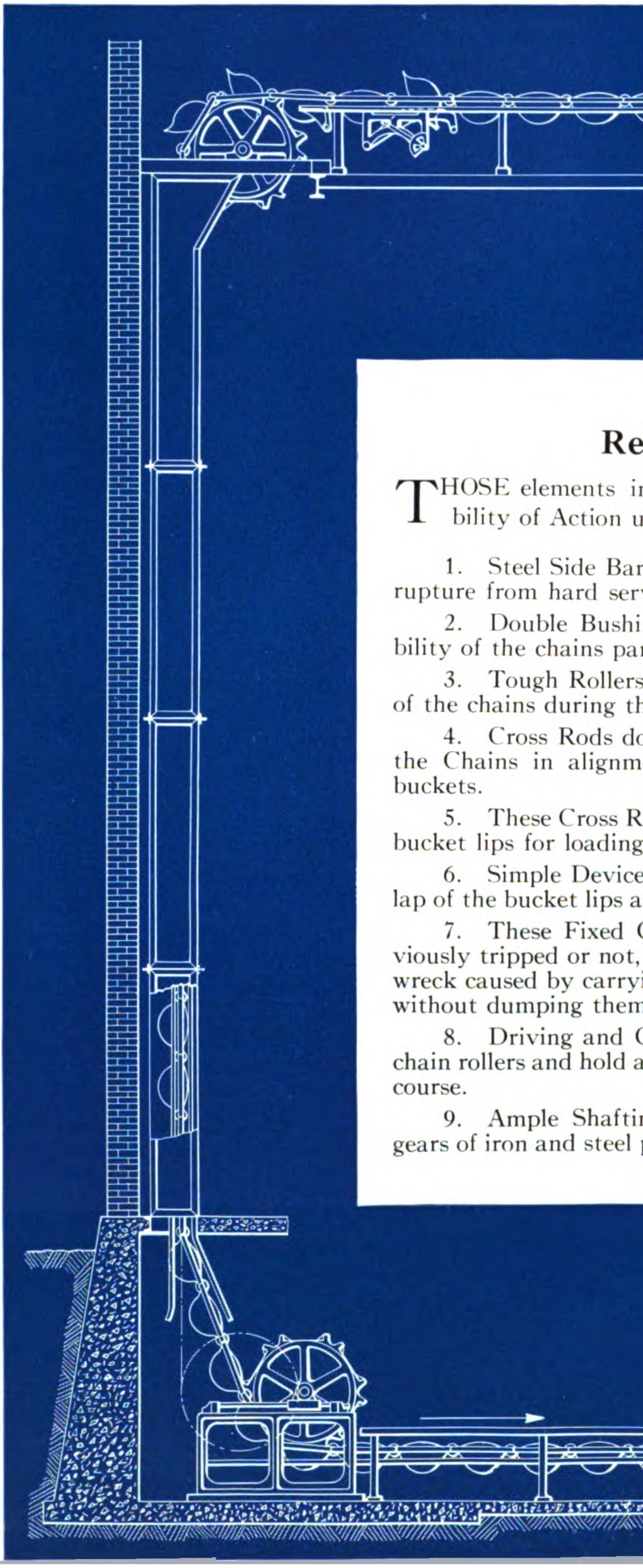


Above is shown an installation of the Pivoted Bucket Carrier for handling coal from outside storage. Ashes are also delivered by this carrier to railroad cars as will be noted by the chute arrangement over tracks.

The upper run of this Carrier over bunkers is shown in the left hand illustration.

Lower run of the above installation, where coal is received from outside storage. Ashes are also received through similar chutes under boilers and are carried to railroad cars.

Pivoted Bucket Carrier



Reliability of Action

THOSE elements in The Jeffrey Carrier which insure Reliability of Action under all conditions of service are as follows:

1. Steel Side Bars in all sizes of the Carrier are proof against rupture from hard service.

2. Double Bushings at the chain joints eliminate the possibility of the chains parting as in other chains where pins are used.

3. Tough Rollers and Hardened Bushings maintain the pitch of the chains during the normal life of the Carrier.

4. Cross Rods do not obstruct the bucket openings but keep the Chains in alignment for the perfectly free pivoting of the buckets.

5. These Cross Rods also positively maintain proper lap of the bucket lips for loading, turning corners and dumping the buckets.

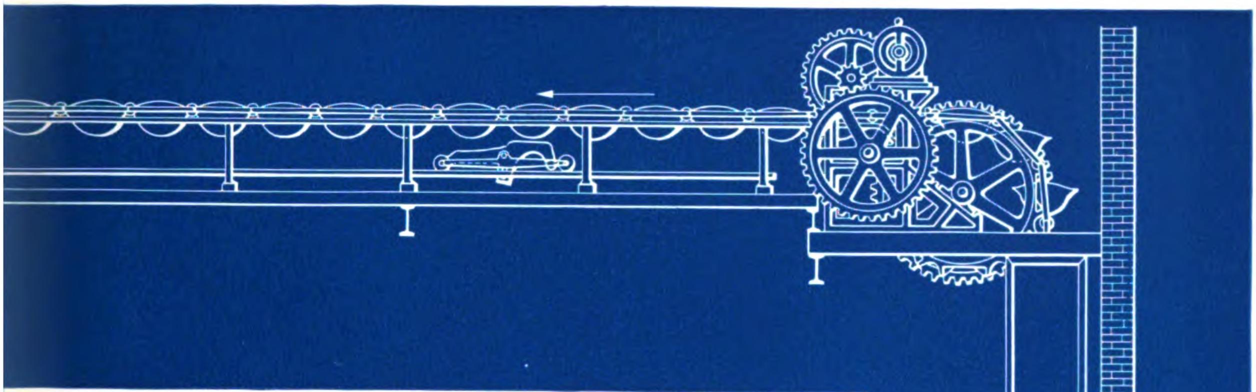
6. Simple Devices of fixed cams and pulleys make the proper lap of the bucket lips as maintained by the cross rods.

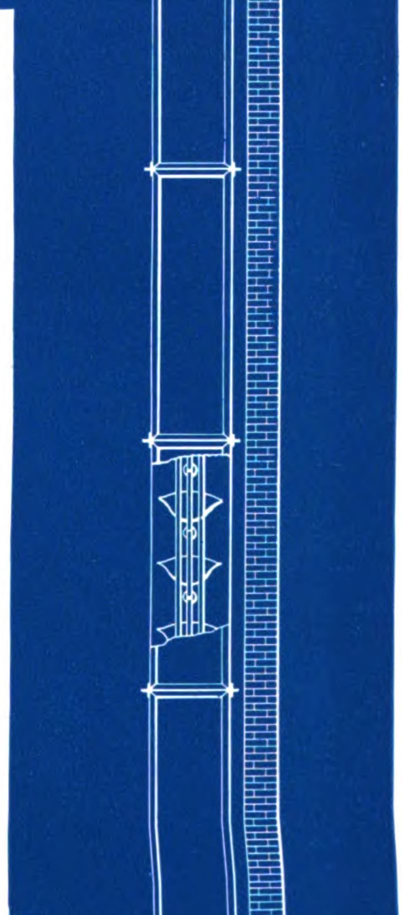
7. These Fixed Cams always trip the buckets whether previously tripped or not, thereby keeping the Carrier from a possible wreck caused by carrying loaded buckets back to the loading point without dumping them.

8. Driving and Corner Wheels have teeth which engage the chain rollers and hold a true alignment of the Carrier throughout its course.

9. Ample Shafting with Strong Bearings and also suitable gears of iron and steel protect the Carrier for assured service.

Pivoted Bucket Carrier





Long Service Qualities

IN distinction to those elements upon the opposite page covering Reliability, below is given those qualities which insure Long Service.

1. Steel Side Bars of high carbon and hard to bend, but very tough. Their thickness gives ample bearing for the Double Bushings.

2. Double Bushings, glass hard and tough, are tight fit in side bars. Wear of chain joints is between bushings, not in side bars.

3. Large White Iron Rollers, tough and hard on tread and in the bore, twice as hard as good gray iron.

4. Steel Cross Rods connecting the chains receive no perceptible wear. They simply touch the bucket lips.

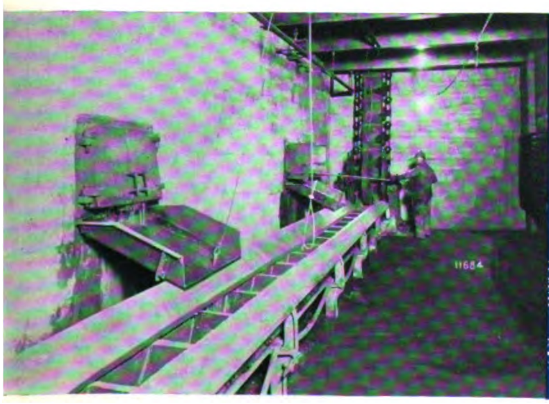
5. Overlapping Lip Buckets are of tough malleable iron for coal and ashes, and gray steel for cement and hot materials.

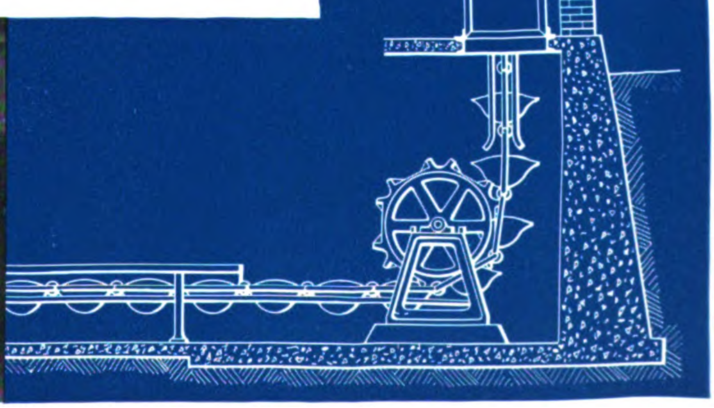
6. Tripping Cams on Buckets are glass hard on their wearing surfaces, and are hot riveted to the bucket ends.

7. Steel Pivot Pins of the buckets are heat treated to glass hardness and bear in hard white iron pivot blocks in the chains.

8. Stationary and Traveling Trippers have deep chilled wearing surfaces and also can be readily lowered when not in service.

9. Driving gears are in keeping with the other high qualities of the Carrier for Long Service. Gear Guards protect them.

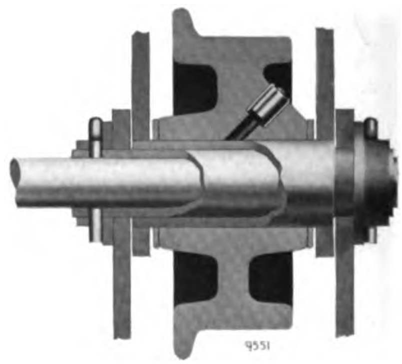




Pivoted Bucket Carrier

(Patented) 11637

THE life of any Carrier in rigidity and in proper action on its driving wheels depends almost entirely upon the life of its chain joints. The Jeffrey Chain therefore is made of tough steel side bars with hardened double bushings. These two bushings are assembled one within the other, the outer one fixed to the inside bars and the inner bushing fixed to the outside bars.



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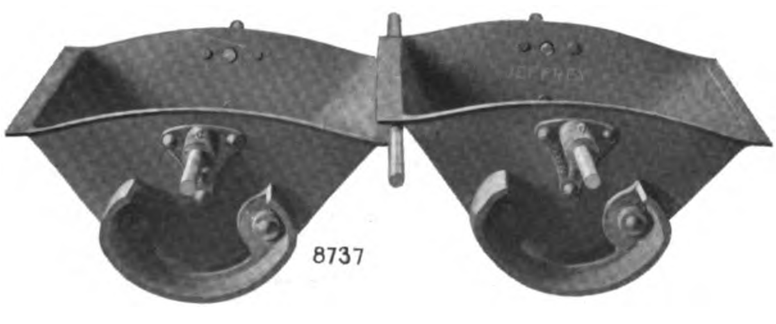
The outer bushings serve as bearings for the chain rollers while the inner bushings act as chain pins and receive the carrier cross rods. It is to these cross rods that the chains are readily assembled by means of malleable washers and large cotter pins on each side of the chain joints. Lugs in the steel side bars are locked tight to notches in both ends of the bushings. Thus all wear is confined to the bushings which may be replaced after long service and a practically new chain obtained at very little cost.

The chain roller, with its thick tread and heavy flange, has been designed to withstand all the shrinkage strains incident to being cast of an exceedingly tough and very hard, white iron. In fact, the roller is so hard that it resists the action of high-grade machine tools, and necessitates the bore be ground on a special grinding machine.



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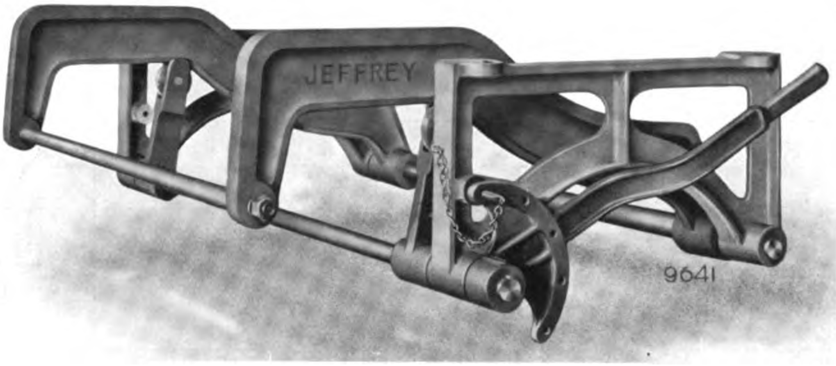
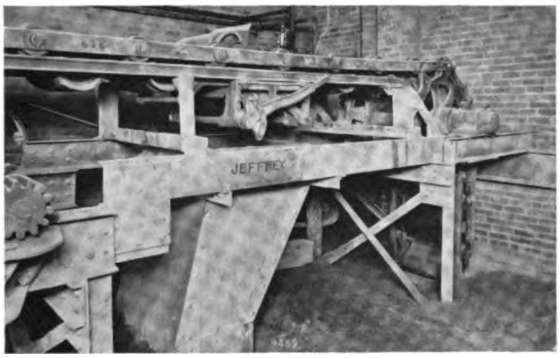
The shape of the Jeffrey Pivoted Bucket is the result of numerous tests to obtain not only the greatest capacity possible, but also a complete discharge of the material handled with the least dumping effort or shock to the Carrier and the least wear of the bucket cams and pivots. The cross-rods prevent rocking of the buckets and maintain a true alignment of the steel chains for a perfect pivoting action of the buckets. Besides being cast from high-grade materials, the Jeffrey Bucket is reinforced on every edge and corner where long experience has dictated to insure the longest life possible. The Buckets are suspended at their ends upon hardened steel trunnion pins pivoted in white iron blocks bolted between the side bars and midway between joints of the chain. The replacing of buckets is a simple operation, and in no way affects the chains.

Pivoted Bucket Carrier

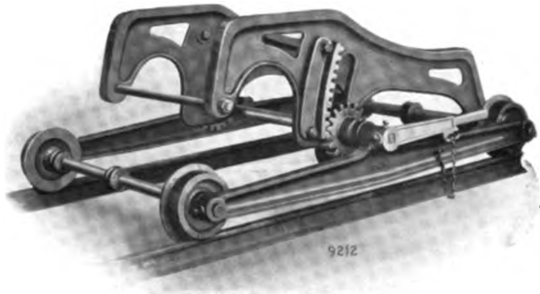




Showing the Stationary Tripper in the act of tripping the Buckets over the Ashes Chute.

Stationary Tripper

The Stationary Tripper is used primarily where there is but one point of discharge, whereas the Traveling Tripper is used where a long storage bin or space is to be completely and uniformly filled.

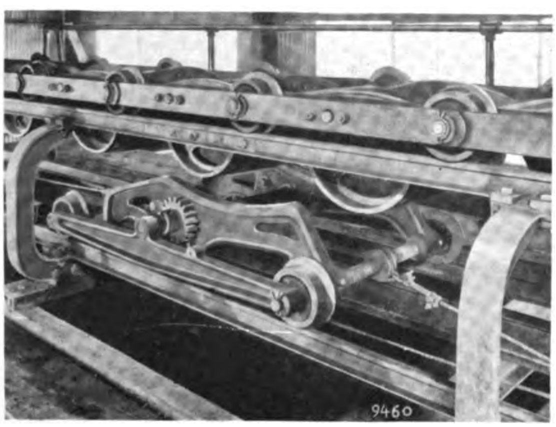


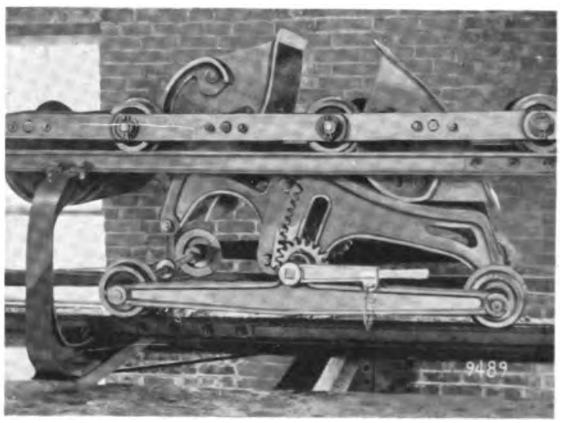
Traveling Tripper

Tripping Cams are readily lowered by rack and pinions so that Tripper may be quickly shifted over a long space when the Carrier is idle or when a Stationary Tripper is in service.

Traveling Tripper

The Traveling Tripper is moved by means of a ⅜" steel wire rope having several wraps around a drum, operated by a large hand wheel, which insures rapid shifting of the tripper from place to place.





Left hand view shows the Traveling Tripper disengaged, while the right hand illustration clearly shows method of tripping buckets.

Both Traveling and Stationary Trippers tilt the buckets so that the discharge bottom is somewhat in excess of 55 degrees to the horizontal.

Pivoted Bucket Carrier

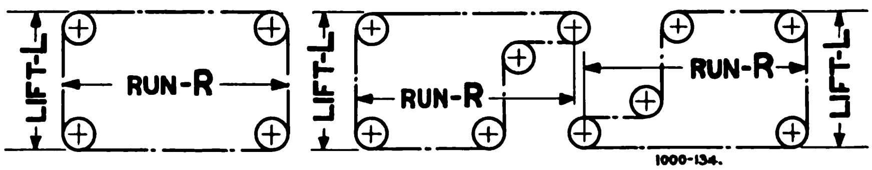
Table of Sizes and Capacities of Jeffrey Pivoted Bucket Carriers

Size Carrier				Tons per Hr. Coal–50 lb. cu. ft. Speed 50 F. P. M. §	Power Factors—Materials Weighing					
					50 lbs. per cu. ft.		100 lbs. per cu. ft.		150 lbs. per cu. ft.	
Bucket †		Chain			A	B	A	B	A	B
Width	Length	Pitch	Roller		For Lift L	For Run R	For Lift L	For Run R	For Lift L	For Run R
16"	18"	18"	5"	30	.043	.026	.086	.032	.129	.038
18"	24"	24"	6"	50	.064	.030	.128	.039	.192	.048
24"	24"	24"	6"	70	.085	.035	.170	.047	.255	.060
30"	24"	24"	6"	85	.106	.044	.212	.060	.320	.076
30"	30"	30"	7"	125	.136	.053	.272	.072	.408	.092
36"	30"	30"	7"	150	.164	.058	.328	.080	.490	.106

† The three largest buckets are formed of cast ends with their chilled dumping cams integral and with steel plate bodies riveted to the ends, while the smaller sizes are made of malleable iron with chilled dumping cams riveted on.

§ Maximum Speed 60 feet per minute.

Figuring the Horsepower Required for Jeffrey Carriers



As the empty vertical strands of the Carrier balance each other, the power to move them is only that required to elevate the load in the up-going strand; while the power to move the horizontal runs is that required to overcome the rolling friction of both the horizontal runs of the Carrier including the loads in them. Therefore, we have in the Table above two Power Factors for a Carrier, "A" for each foot of Vertical Lift "L", and "B" for each foot of Horizontal Run "R"; whereby the power required at the head shaft for 50, 100, and 150 pound per cubic foot materials in a Carrier traveling at 50 ft. per minute speed may be readily figured from the formula:

$$\text{HORSE POWER AT HEAD SHAFT} = (A \times L) + (B \times R).$$

To the power thus obtained add 33⅓% for losses through the gears to obtain the size of the Motor.

For Example: The Motor required to operate an 18 in. x 24 in. Carrier of 75 feet Vertical LIFT and 100 feet Horizontal RUN handling Coal at 50 lbs. per cubic foot and traveling 50 feet per minute is:

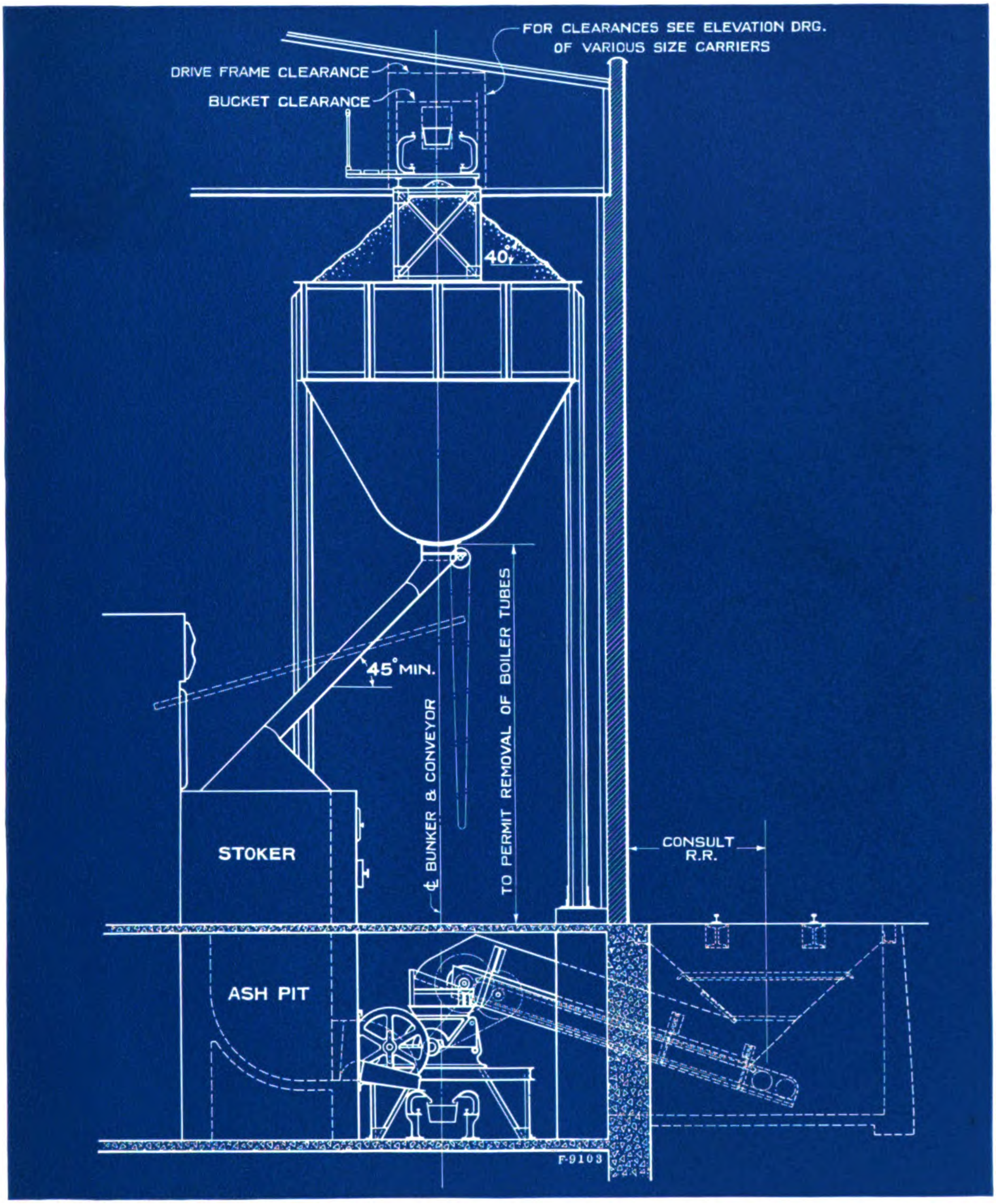
$(.064 \times 75) + (.030 \times 100) = 7.8$ Horse Power, which, when increased 33⅓% = 10.4 Horse Power at the Motor.

Placing the Jeffrey Carrier Into Your Building Plans

Upon the pages following are blue prints of typical erection drawings for six sizes of the Jeffrey Carrier. These prints give dimensions which are vital to the proper installation of the Carriers.

Thus a Jeffrey Carrier can be definitely embodied in your building plans at the beginning, and time and expense saved thereby.

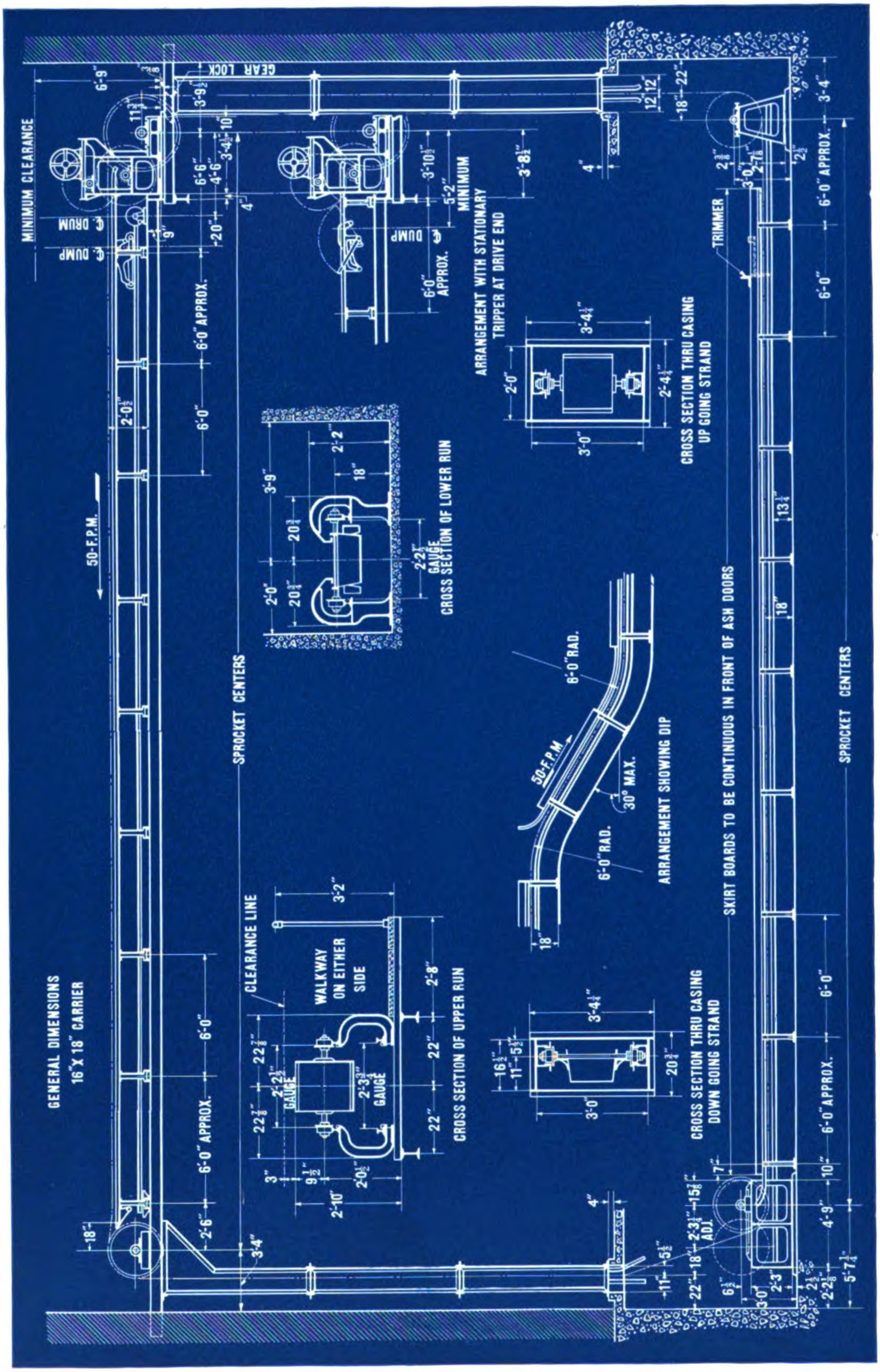
Pivoted Bucket Carrier



TO assist the architect and engineer to make building plans for the proper reception of The Jeffrey Carrier, the above blue print, with others on the following pages, have been carefully prepared. Before using any of the prints, read all notations upon the same.

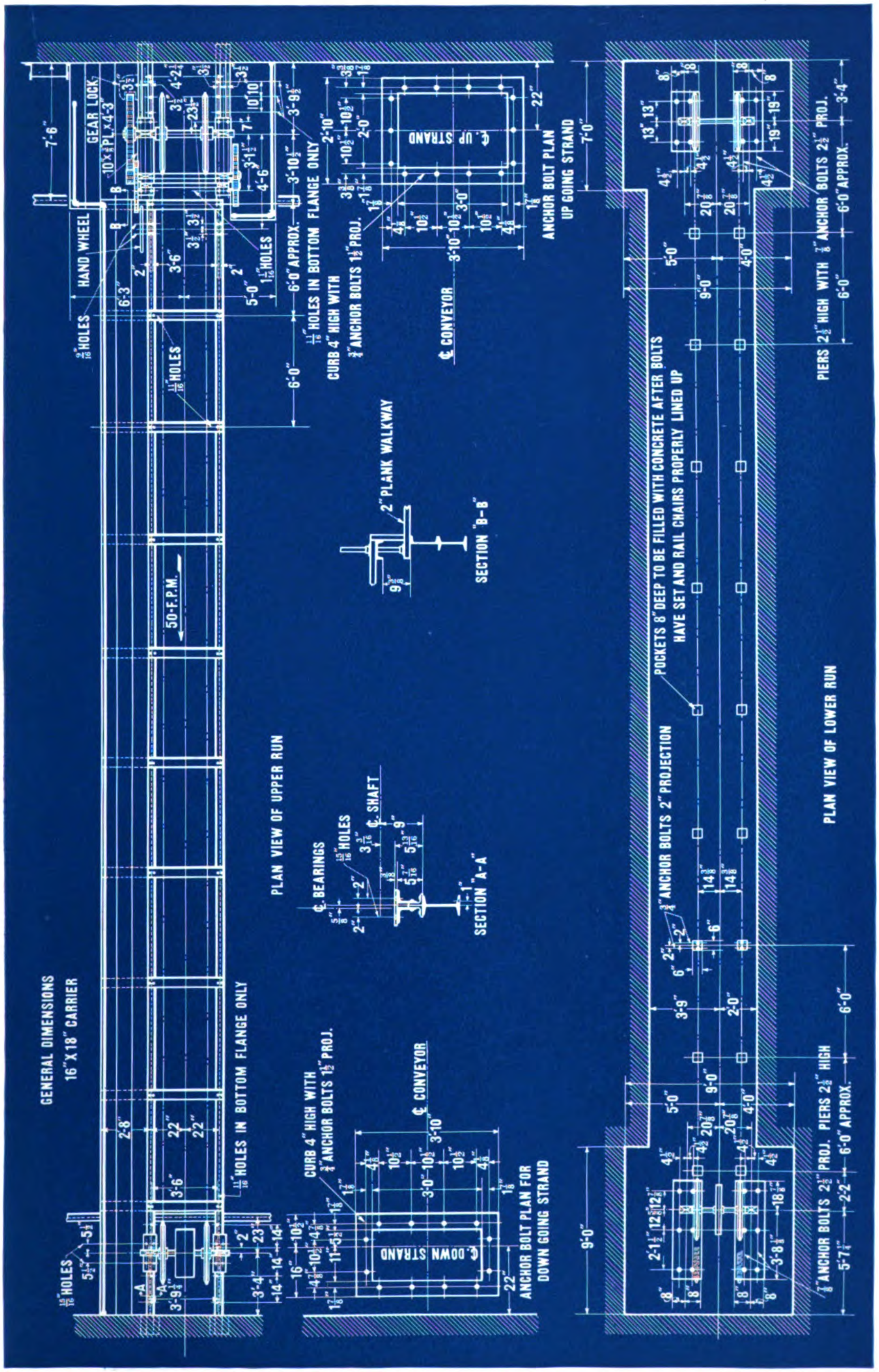
On the above print note—(1) the 40 degree coning angle of coal in bunker—(2) the minimum 45 degree angle of spouts to stokers—(3) proper clearances below bunkers and in front of stokers.

Pivoted Bucket Carrier



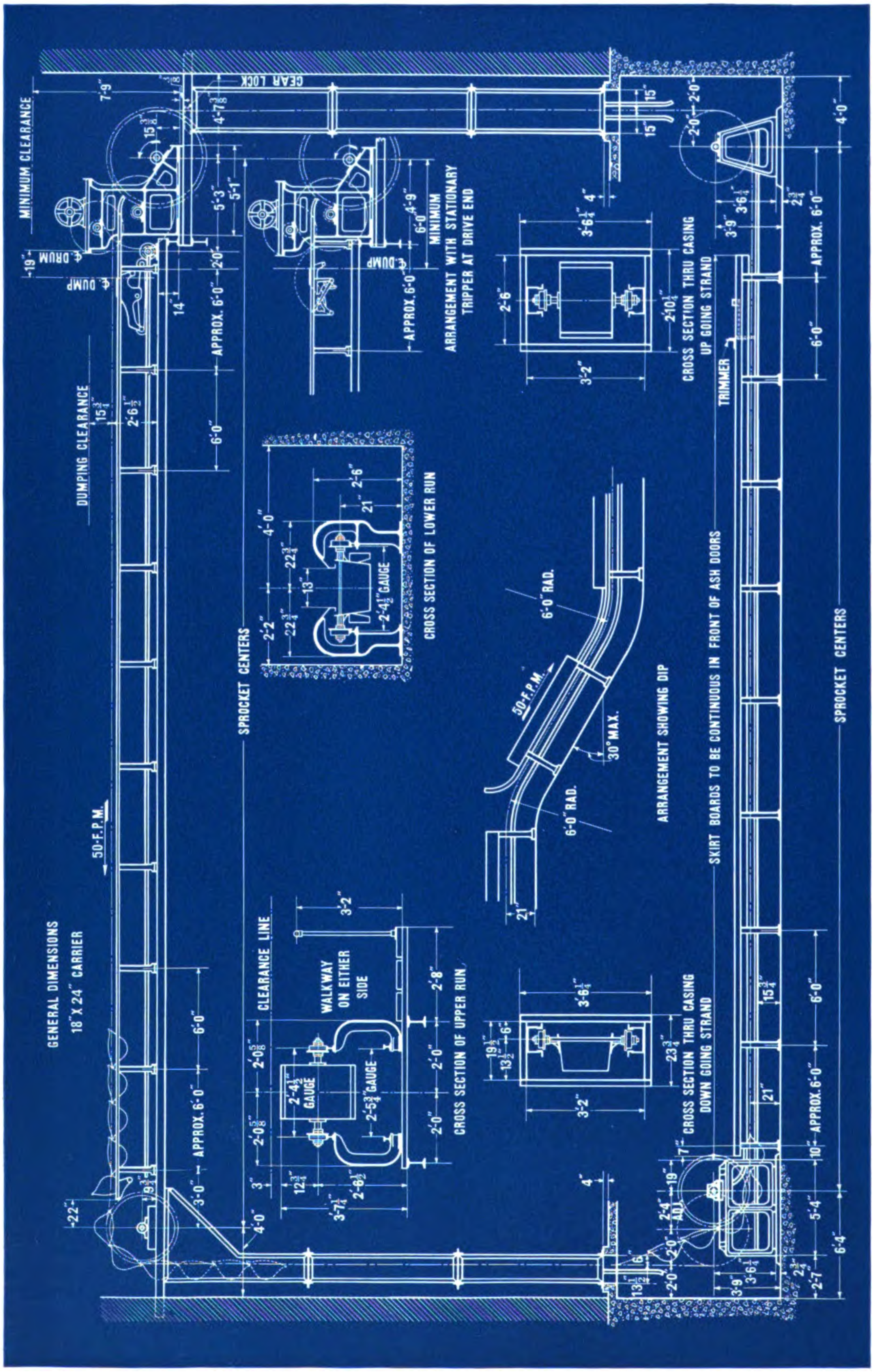
The 16" x 18" Carrier handles 30 tons of coal per hour at 50 feet per minute. Cross channels bolted to upper rail chairs are furnished as part of Standard Equipment for all sizes of Carriers. Where Vertical Lift is less than 15 per cent of Horizontal Run, place the Drive at opposite upper corner from that shown with direction of carrier travel remaining unchanged. Plan Views given on next page.

Pivoted Bucket Carrier



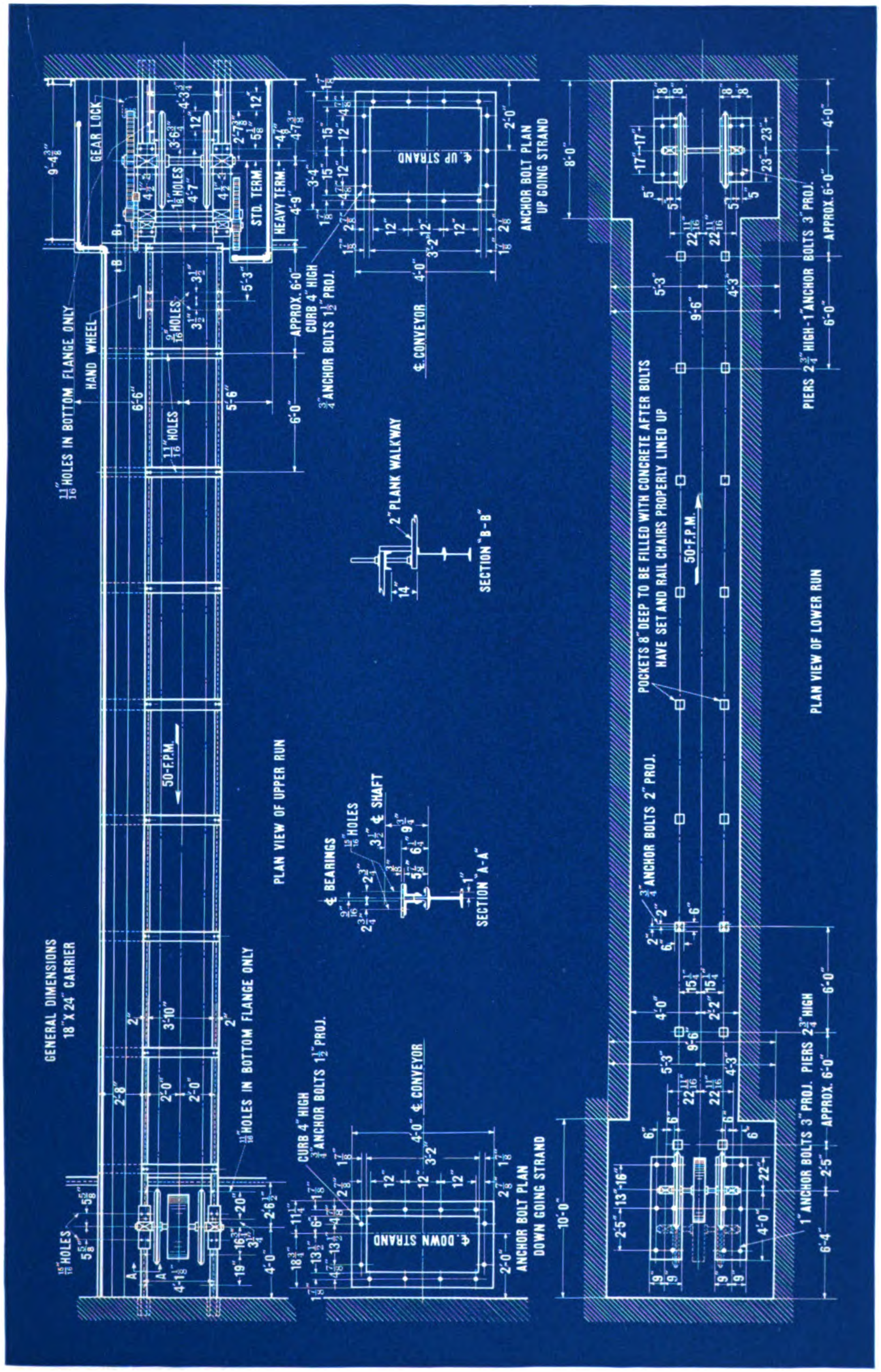
Plan Views of 16″ x 18″ Carrier—Upper Run shows the cross channels which are furnished with upper rail chairs. Note extensions for walkway. Lower Run shows the minimum space about the Carrier for proper care and inspection. Where possible increase this clearance along both sides of the Carrier. Anchor bolts in lower corners should be set deep in good cemented work.

Pivoted Bucket Carrier



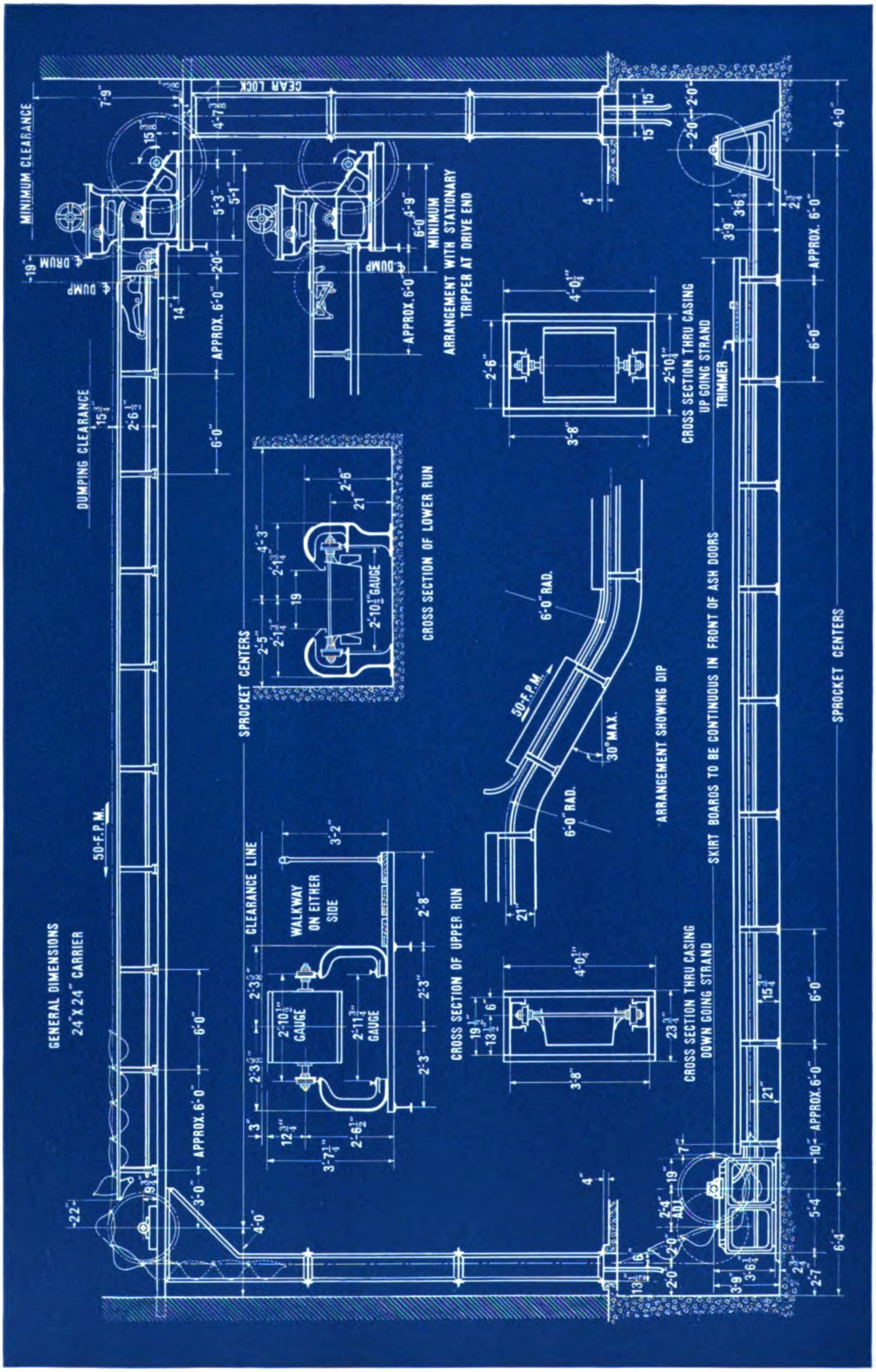
The 18" x 24" Carrier handles 50 tons of coal per hour at 50 feet per minute. Walkway cross channels are furnished with upper chairs. In "Cross Section of Lower Run" note protection of Carrier chains by rounded loading skirts. Where Vertical Lift is less than 15 per cent of Horizontal Run, place the Drive at opposite upper corner from that shown with direction of carrier travel remaining unchanged. Plan Views given on next page.

Pivoted Bucket Carrier



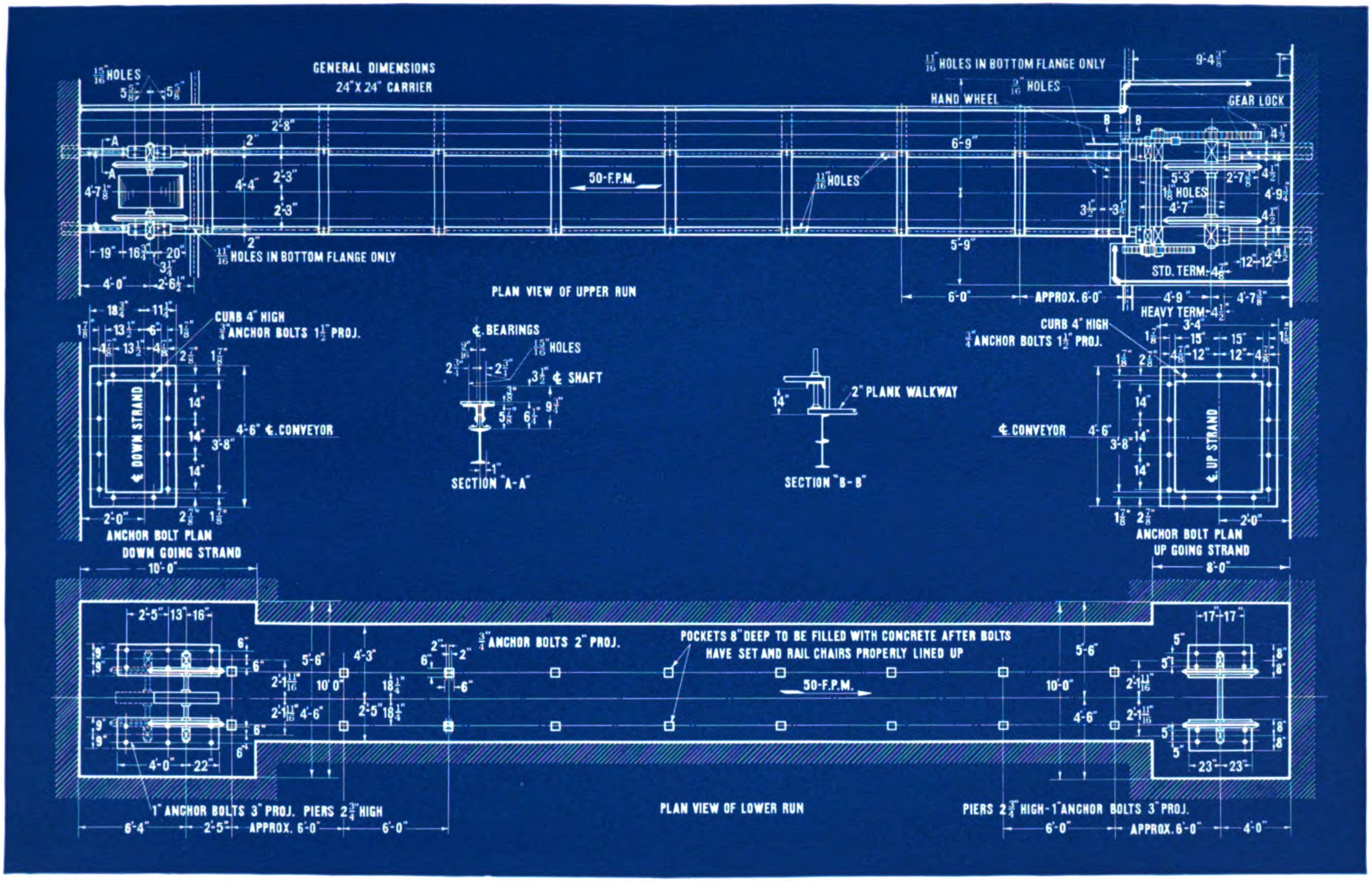
Note the anchor bolt plan which gives the location of bolts for fastening the casing to floor. Plan of the Lower Run gives the minimum clearance about the Carrier—but where possible increase this clearance along both sides of the Carrier. Upper Corner supports for all Carriers to be cemented into pilastered end walls or well braced down into bin or building structure. Anchor bolts for Lower Corners to be set deep in good cemented work.

Pivoted Bucket Carrier



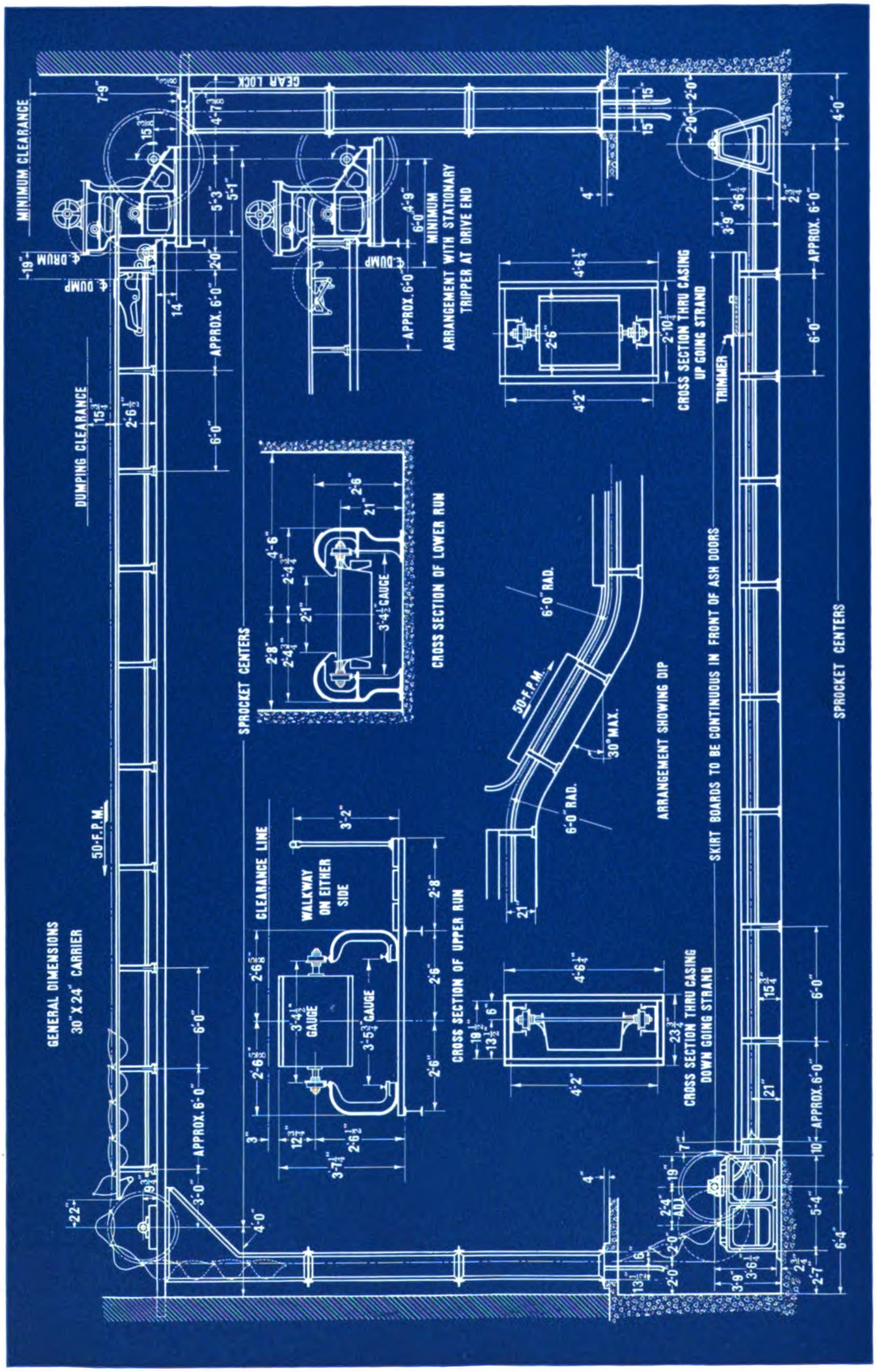
The 24" x 24" Carrier handles 70 tons of coal per hour at 50 feet per minute. Note that foundations under Lower Corner Frames for all sizes of Carriers extend above the general floor level. The closest dumping position of Traveling and Stationary Trippers to the Drive Corners is shown above for 24" x 24" Carrier. Note maximum incline for all Carriers is 30 degrees with 6'-0" minimum radii. Plan Views given on next page.

Pivoted Bucket Carrier



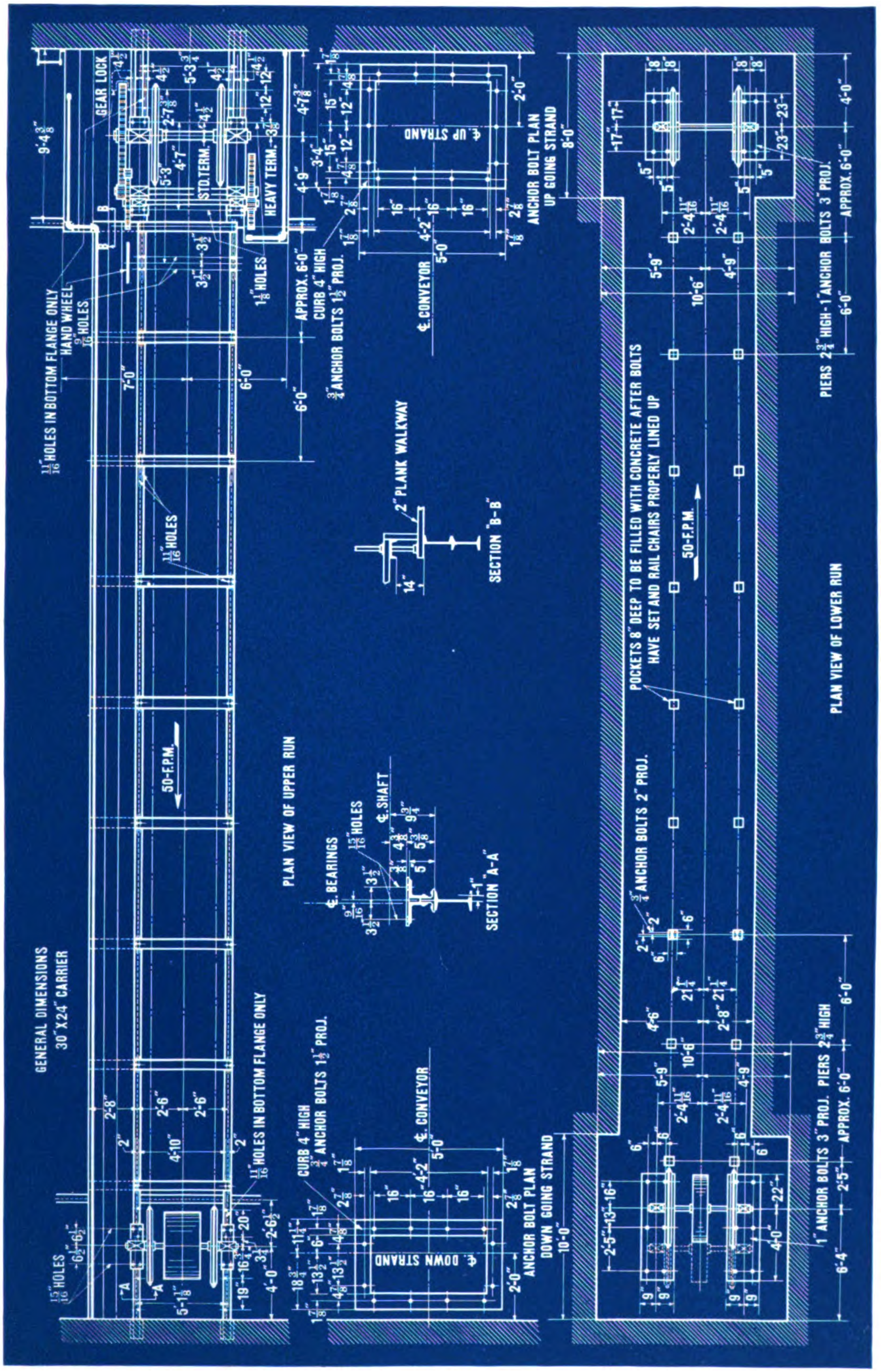
Above Plan of Lower Run gives the minimum clearance about Carrier—but where possible increase this clearance along both sides of the Carrier. Walkway with hand rail should be provided for the proper care and inspection of parts along the Upper Run. Where the Vertical Lift is less than 15 per cent. of the Horizontal Run, place Drive at opposite upper corner from that shown with direction of travel unchanged.

Pivoted Bucket Carrier



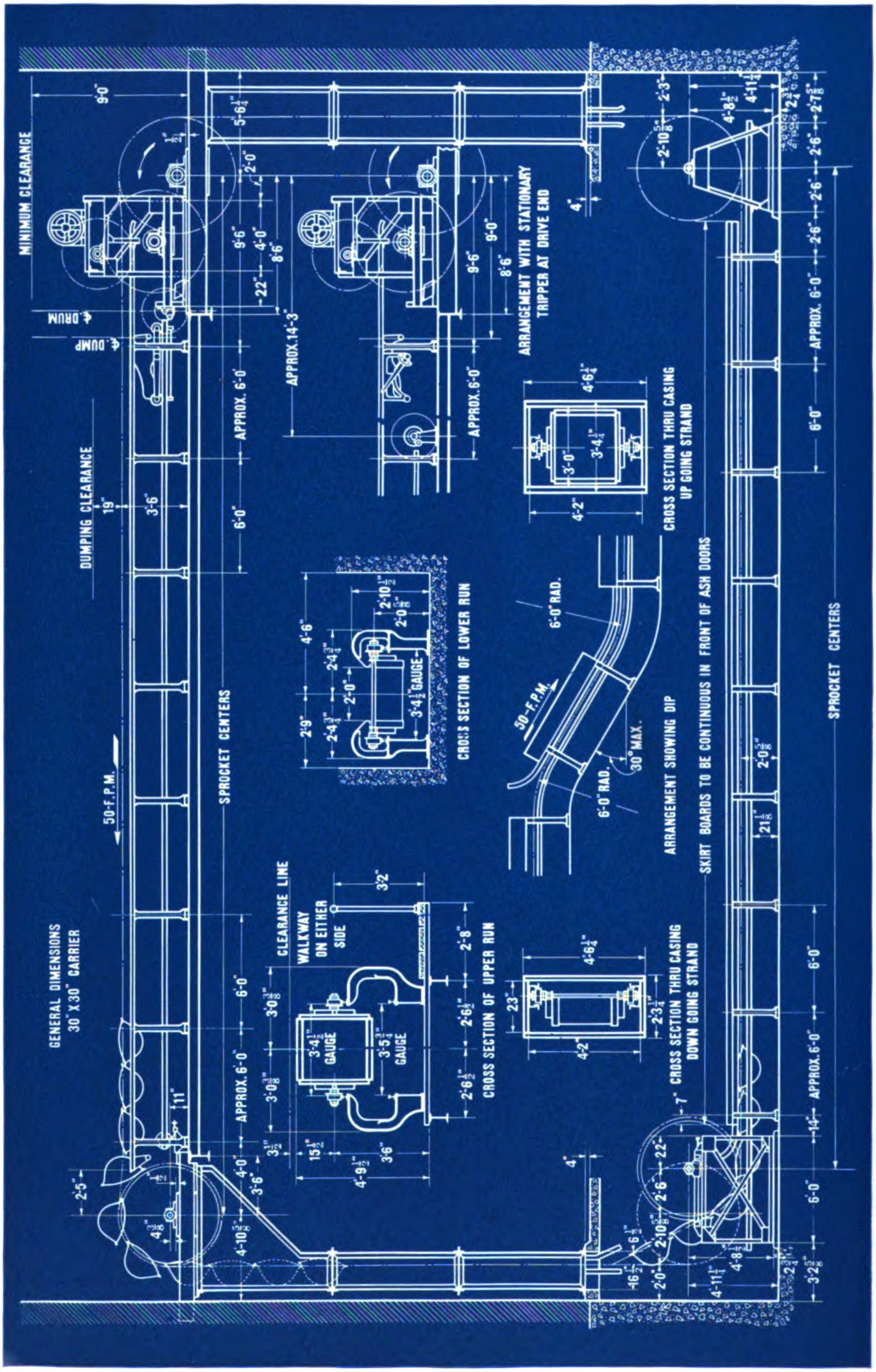
The 30" x 24" Carrier handles 85 tons of coal per hour at 50 feet per minute. Walkway cross channels are furnished with upper chairs. Note pads should be provided under the lower corner frames and casings. Maximum incline for all Carriers is 30 degrees with 6'-0" minimum radii. Plan Views given on next page.

Pivoted Bucket Carrier



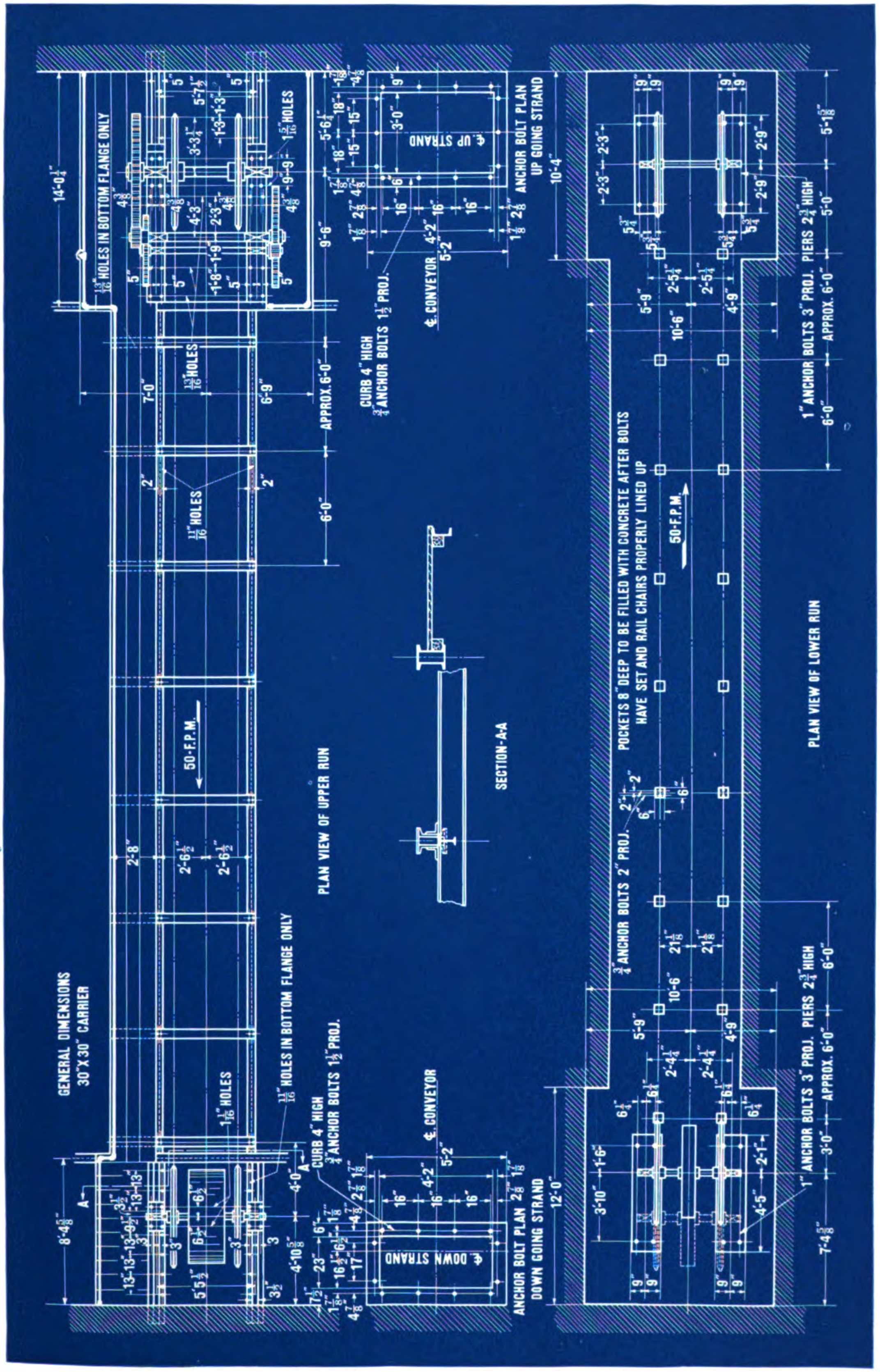
The above plan of Lower Run gives the minimum clearance about the Carrier—but where possible increase this clearance along both sides of the Carrier. Extensions should be provided for Walkway as shown around drive corner to allow for proper care and inspection of driving mechanism.

Pivoted Bucket Carrier



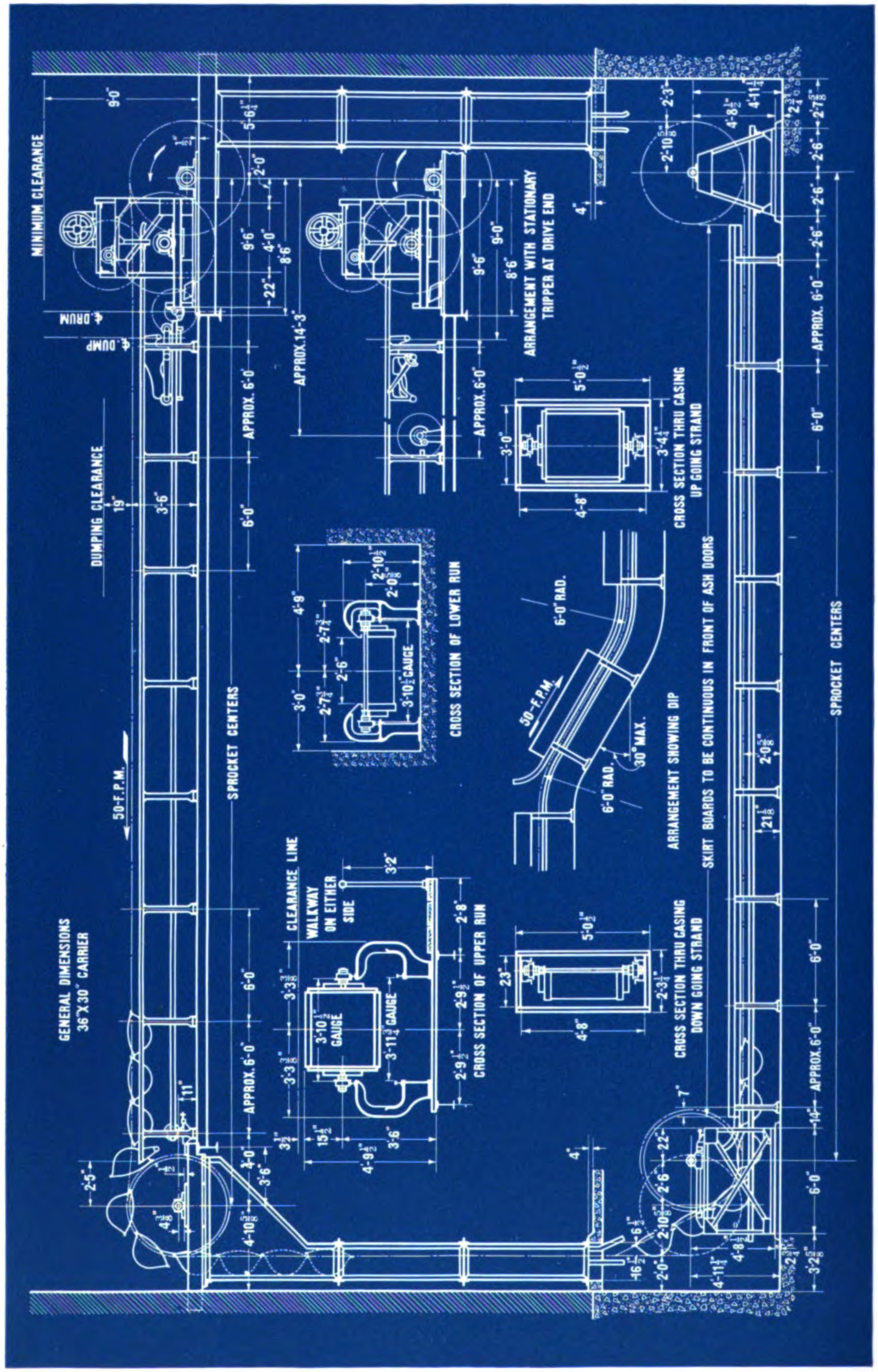
The 30" x 30" Carrier handles 125 tons of coal per hour at 50 feet per minute. Walkway cross channels are furnished with upper chairs. In "Cross Section of Lower Run" note protection of Carrier chains by rounded loading skirts. The closest dumping position of Traveling and Stationary Trippers to the Drive Corners is shown above. Plan Views given on next page.

Pivoted Bucket Carrier



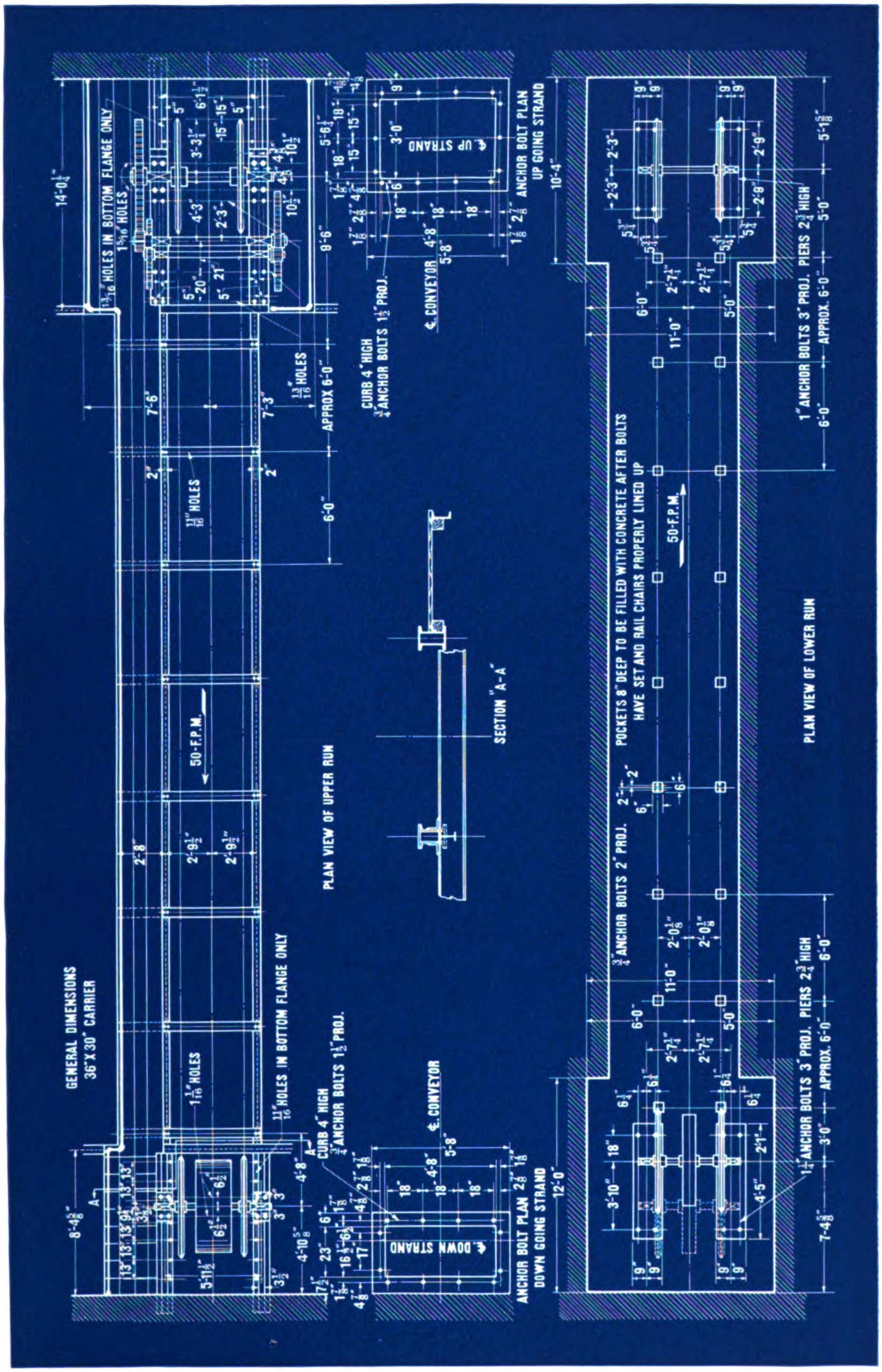
"Plan View of Lower Run" shows the minimum space about the Carrier for proper care and inspection. Where possible increase this clearance along both sides of the Carrier. Anchor bolts in lower corners should be set deep in good cemented work. Note the pockets in the Lower Run to be filled with concrete after bolts are in place and rail chairs properly lined up.

Pivoted Bucket Carrier



The 36" x 30" Carrier handles 150 tons of Coal per hour at 50 feet per minute. Walkway cross channels are furnished with upper chairs. The closest dumping position of Traveling and Stationary Trippers to the Drive Corners is shown above. Note that pads should be provided under the lower corner frames and casings. Plan Views given on next page.

Pivoted Bucket Carrier



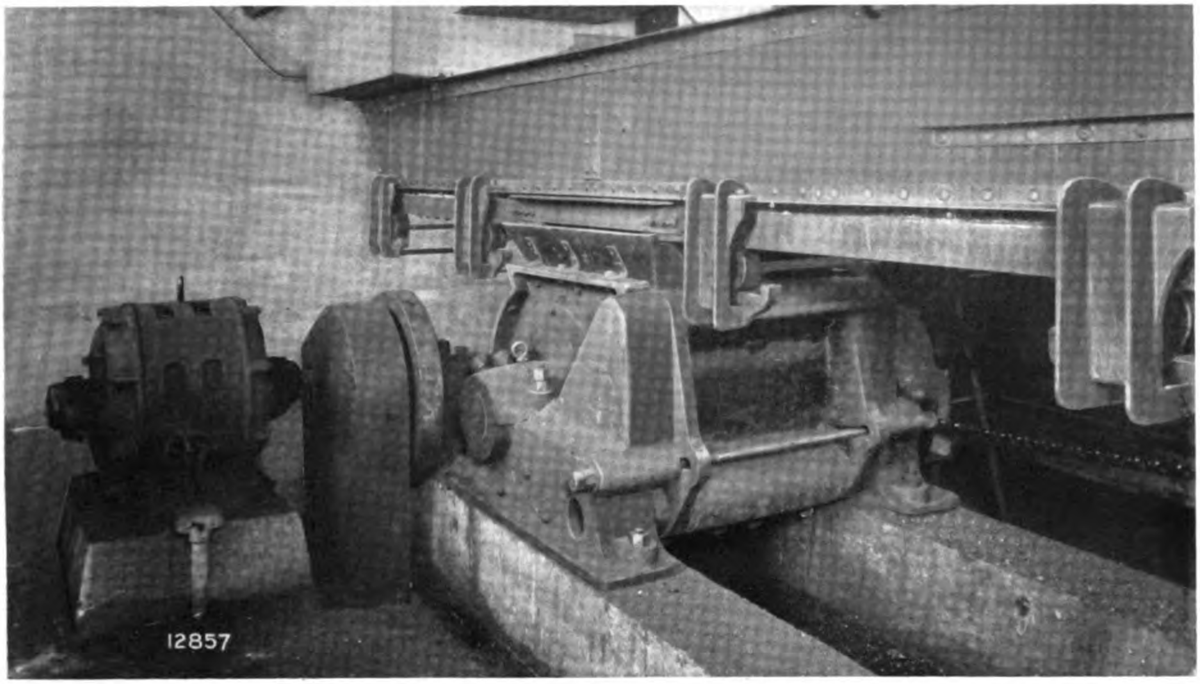
"Plan View of Lower Run" shows minimum space about the Carrier for proper care and inspection. Where possible increase this clearance along both sides of the Carrier. Walkway should be provided around the drive end corner to insure proper attention to driving mechanism. Note the Anchor Bolt Plan which gives the location of bolts for fastening the casing to floor.

Track Hoppers and Feeders

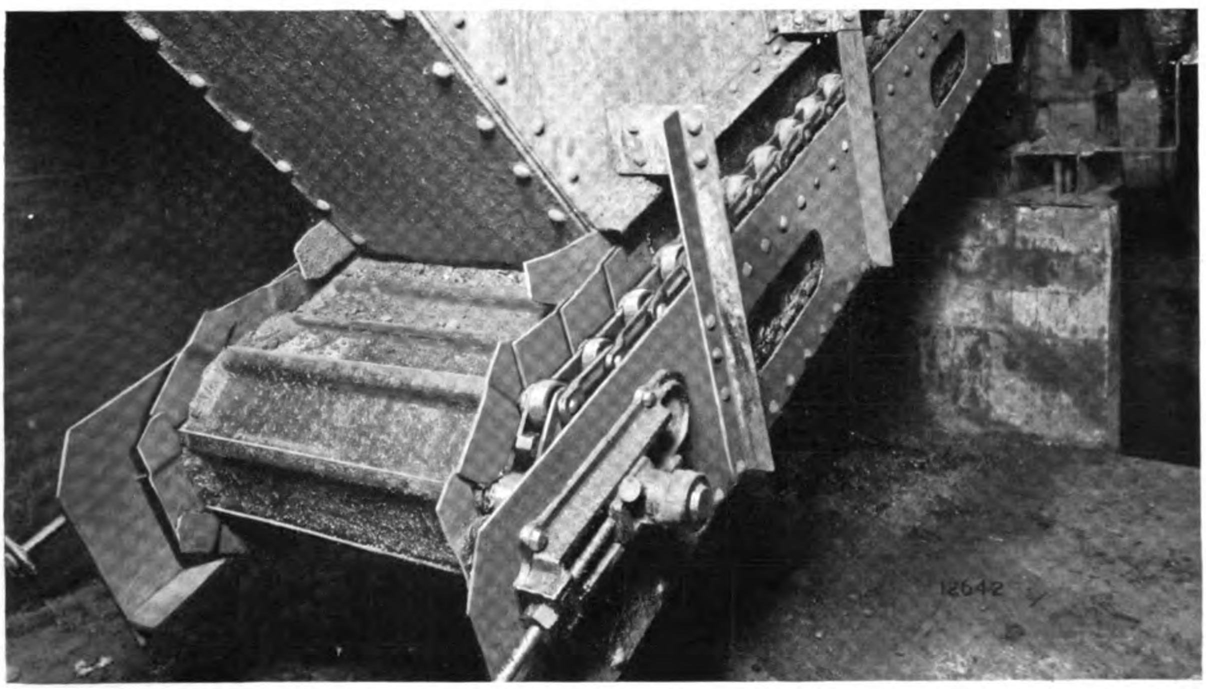
Jeffrey Standard Track Hopper with concrete slopes which permit of a quick clean-up. For general dimensions of standard Track Hoppers see following pages.

A Jeffrey Double Track Hopper serving a railroad Coaling Station. Coal is easily and quickly handled from hopper bottom cars by dumping into Jeffrey Track Hopper from which it is delivered to elevating or conveying equipment by either a plate or apron feeder.

Track Hoppers and Feeders

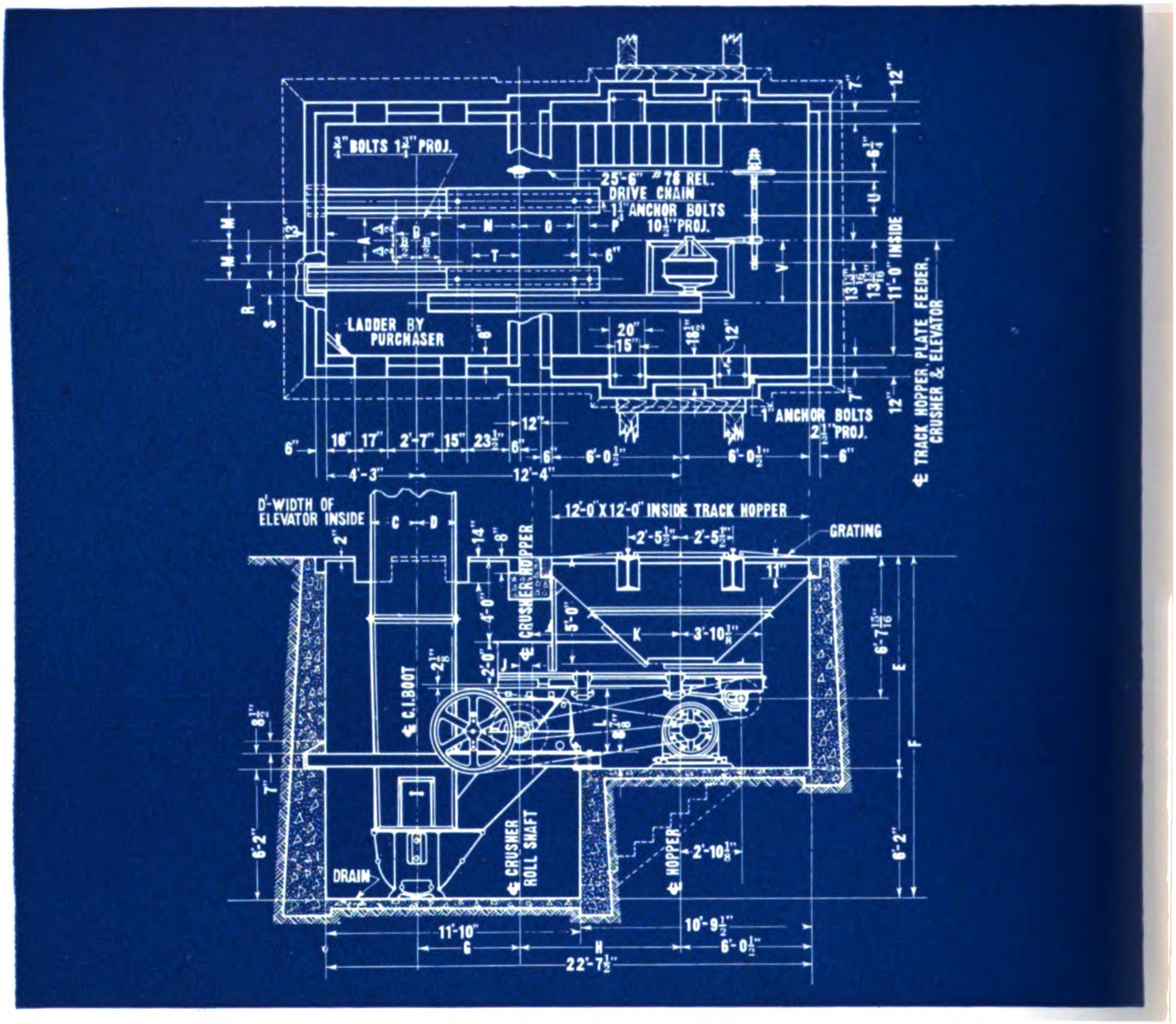


Jeffrey Reciprocating Plate Feeder for regulating the flow of material from Track Hopper to Crusher. This type of feeder is recommended where local conditions will permit of placing the elevator close to railroad track, or a conveyor passing under the track. See following pages for arrangement and dimensions.



A typical installation showing Jeffrey Apron Feeder operating from under the Track Hopper to Crusher. The Apron Feeder works out to advantage where the elevator is somewhat removed from Track Hopper or where it is desired to save in depth of the elevator pit. See following pages for arrangement and dimensions.

Track Hoppers and Feeders



General arrangement of a Jeffrey Standard 12 x 12 Steel Track Hopper with Reciprocating Plate Feeder to handle Coal through Single Roll Crusher to Bucket Elevator.

Capacity Tons per Hour	ELEVATORS No.	Centers	A	B	C	D	D1
23.2	115 144	0'-40' 41'-80'	19½" 20½"	20" 20"	2'-1" 2'-5"	19" 19"	15" 16"
25	119 149	0'-40' 41'-80'	21½" 22½"	20" 20"	2'-1" 2'-5"	19" 19"	17" 18"
36	122 152	0'-40' 41'-80'	2'-0" 2'-1"	2'-0" 2'-0"	2'-0" 2'-2"	22" 22"	19" 20"
50	Cont. Bucket	0'-40' 41'-80'	2'-0" 2'-1"	2'-0" 2'-0"	2'-0" 2'-2"	22" 22"	19" 20"

Where local conditions will not permit of installing a 12 x 12 Hopper, an 8 x 8 or 10 x 10 Hopper requiring less depth and ground space can be furnished.

‡Grating omitted when maximum size of piece does not exceed tabulated dimension.

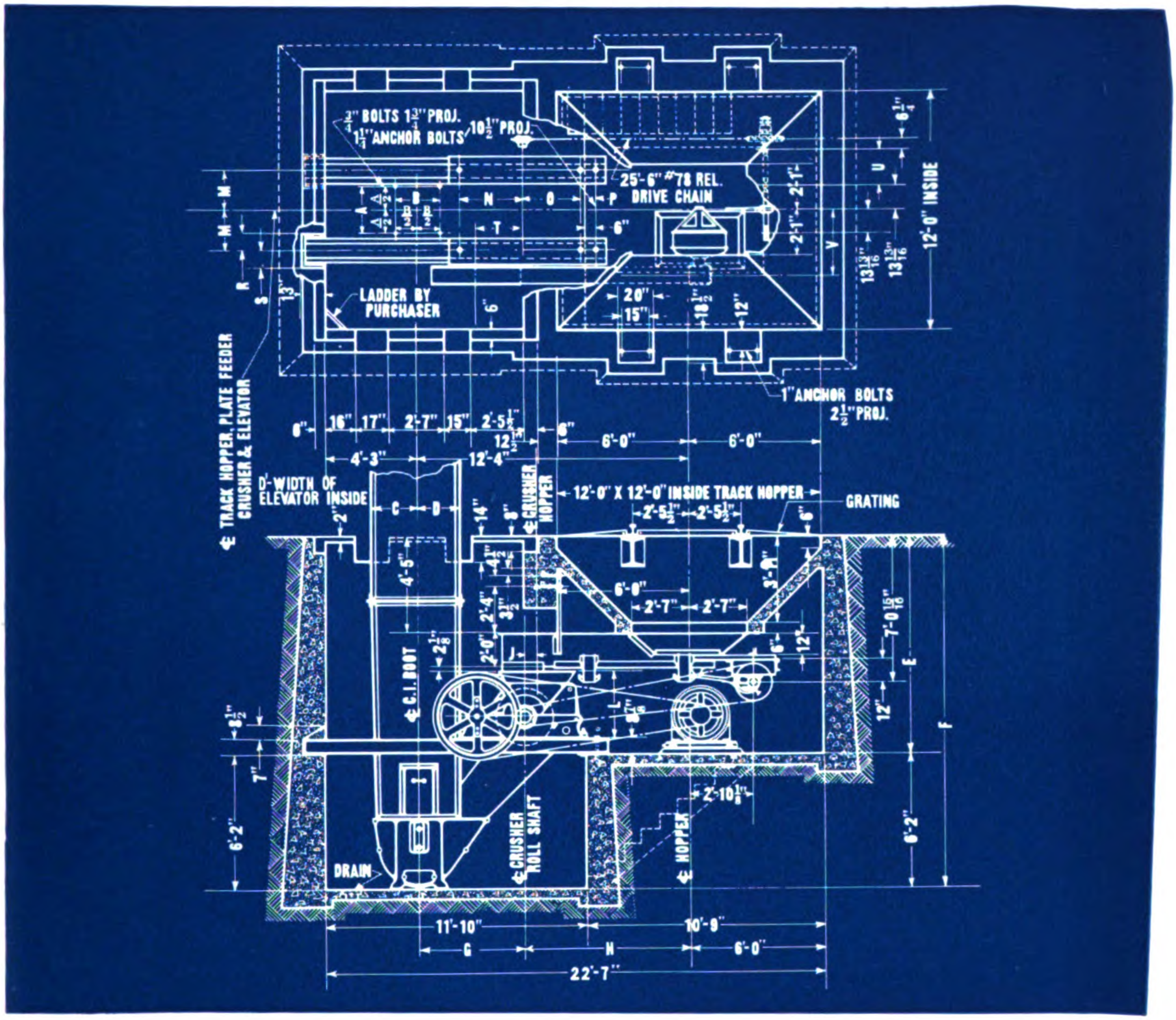
Purchaser to determine thickness of pit walls to suit local soil conditions.

For detailed information on Bucket Elevators, see pages 376 and 386.

For detailed information on Single Roll Crushers, see pages 565 to 582.

Size Crusher	Motor Req'd HP	Motor Req'd Speed	E	F	G	H	J	K	L	M	N	O	P	R	S	T	U	V	Mesh of Grating ‡
24x24	25	860	9'-7½"	15'-9½"	4'-8⅛"	7'-7⅞"	5⅜"	7'-2½"	2'-8½"	17⅞"	2'-5½"	2'-2"	14⅞"	6"	8"	21"	12 13/16"	2'-4¾"	14"
30x30	35	860	10'-0"	16'-2"	4'-9½"	7'-6½"	6½"	7'-0"	3'-1"	22⅛"	2'-10¼"	2'-6¾"	8¾"	9"	9"	2'-1½"	18 13/16"	2'-11⅜"	20"

Track Hoppers and Feeders



General arrangement of a Jeffrey Standard 12 x 12 Concrete Track Hopper with Reciprocating Plate Feeder to handle Coal through Single Roll Crusher to Bucket Elevator.

	ELEVATORS						
Capacity Tons per Hour	**No.**	**Centers**	**A**	**B**	**C**	**D**	**D1**
23.2	115 144	0'-40' 41'-80'	19½" 20½"	20" 20"	2'-1" 2'-5"	19" 19"	15" 16"
25	119 149	0'-40' 41'-80'	21½" 22½"	20" 20"	2'-1" 2'-5"	19" 19"	17" 18"
36	122 152	0'-40' 41'-80'	2'-0" 2'-1"	2'-0" 2'-0"	2'-0" 2'-2"	22" 22"	19" 20"
50	Cont. Bucket	0'-40' 41'-80'	2'-0" 2'-1"	2'-0" 2'-0"	2'-0" 2'-2"	22" 22"	19" 20"

Where local conditions will not permit of installing a 12 x 12 Hopper, an 8 x 8 or 10 x 10 Hopper requiring less depth and ground space can be furnished.

‡Grating omitted when maximum size of piece does not exceed tabulated dimensions.

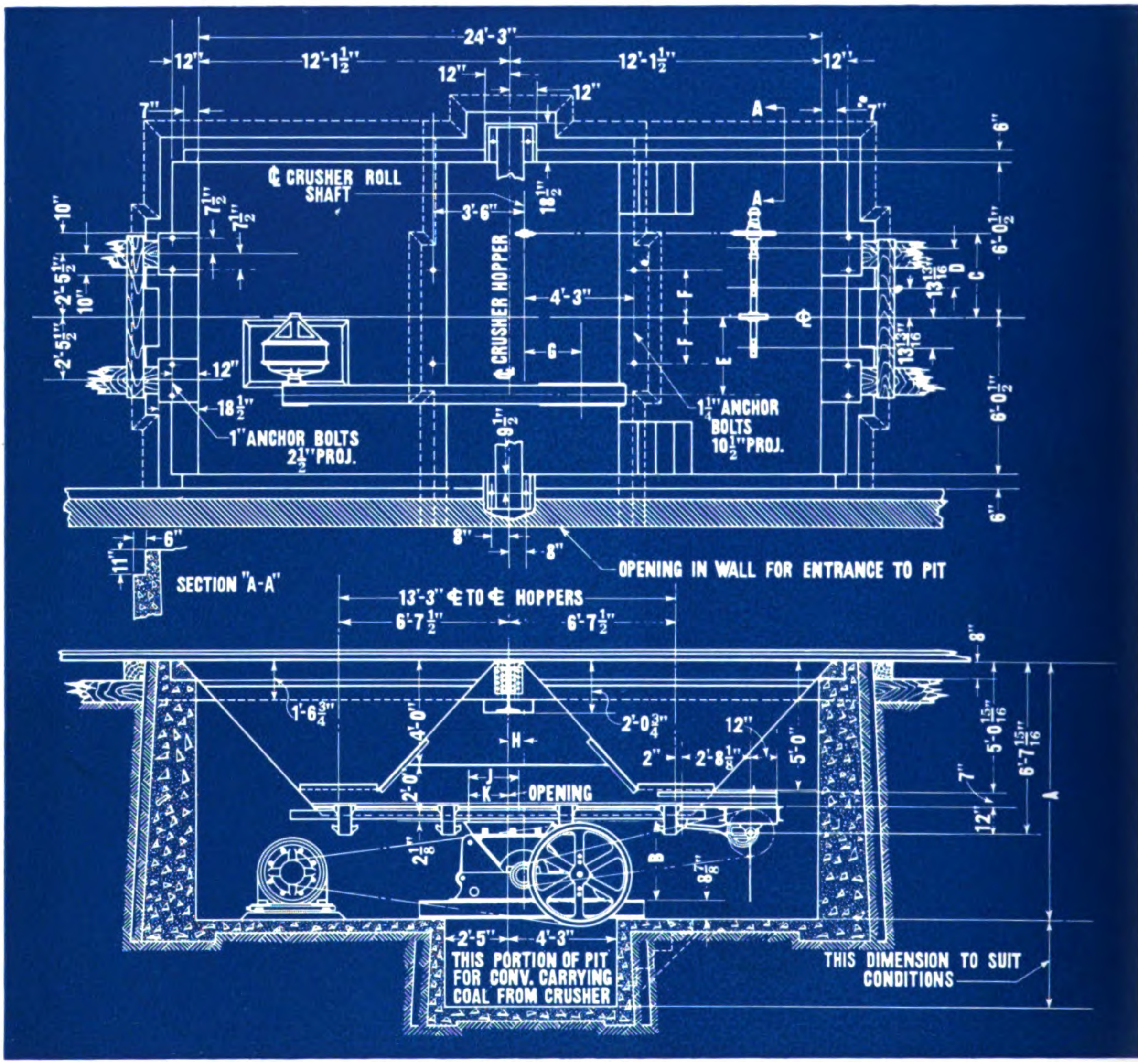
Purchaser to determine thickness of pit walls to suit local soil conditions.

For detailed information on Bucket Elevators, see pages 376 and 386.

For detailed information on Single Roll Crusher, see pages 565 to 582.

Size Crusher	**Motor Req'd HP**	**Motor Req'd Speed**	**E**	**F**	**G**	**H**	**J**	**L**	**M**	**N**	**O**	**P**	**R**	**S**	**T**	**U**	**V**	**‡Mesh of Grating**
24x24	25	860	10'-0½"	16'-2½"	4'-8⅛"	7'-7⅞"	5⅜"	2'-8½"	17⅞"	2'- 5½"	2'-2"	14⅞"	6"	8"	21"	12$\frac{11}{16}$"	2'- 4¾"	14"
30x30	35	860	10'-5"	16'-7"	4' 9½"	7'-6½"	6½"	3'-1"	22⅝"	2'-10¼"	2'-6¾"	8¾"	9"	9"	2'-1½"	18$\frac{11}{16}$"	2'-11⅜"	20"

Track Hoppers and Feeders



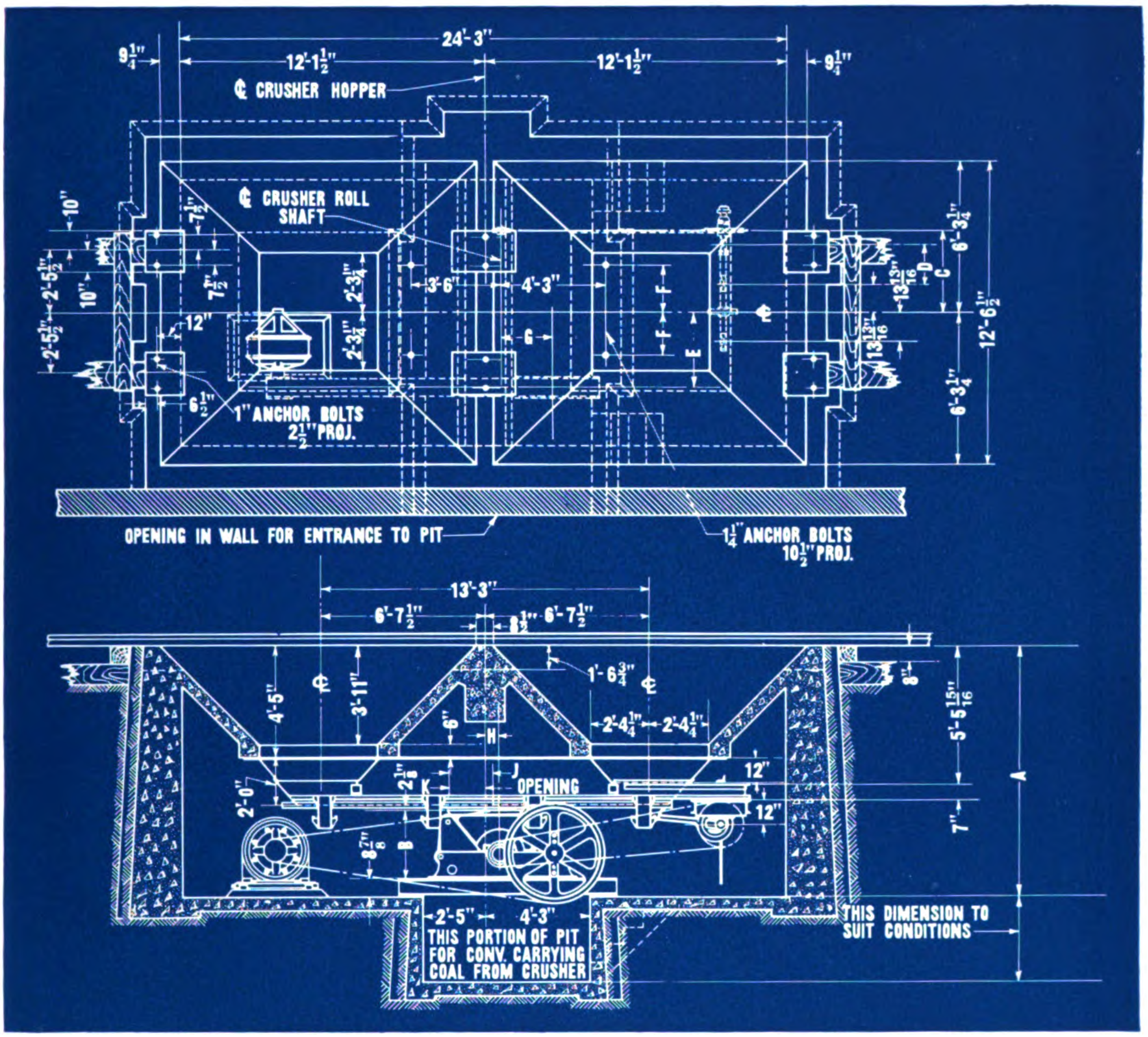
General arrangement of a Jeffrey Double Steel Track Hopper with double Reciprocating Plate Feeder to handle Coal through Single Roll Crusher to Main Conveyor.

Size Crusher	A	B	C	D	E	F	G	H	J	K	Mesh of Grating ‡	Motor Req'd H. P.	Motor Req'd Speed
24 x 24	9'-7½"	2'-8½"	2'-9"	12 15/16"	2'- 4¾"	19¼"	21"	5⅜"	2'-0"	15"	14"	25	860
30 x 30	10'-0"	3'-1"	3'-3"	18 15/16"	2'-11⅜"	22⅛"	2'-1½"	6½"	2'-6"	18"	20"	35	860

‡Grating omitted when maximum size of piece does not exceed tabulated dimensions.
Purchaser to determine thickness of pit walls to suit local soil conditions.
For detailed information on Single Roll Crusher, see pages 565 to 582.

Where local conditions will not permit of installing a 12x12 Hopper, an 8x8 or 10x10 Hopper requiring less depth and ground space can be furnished.

Track Hoppers and Feeders



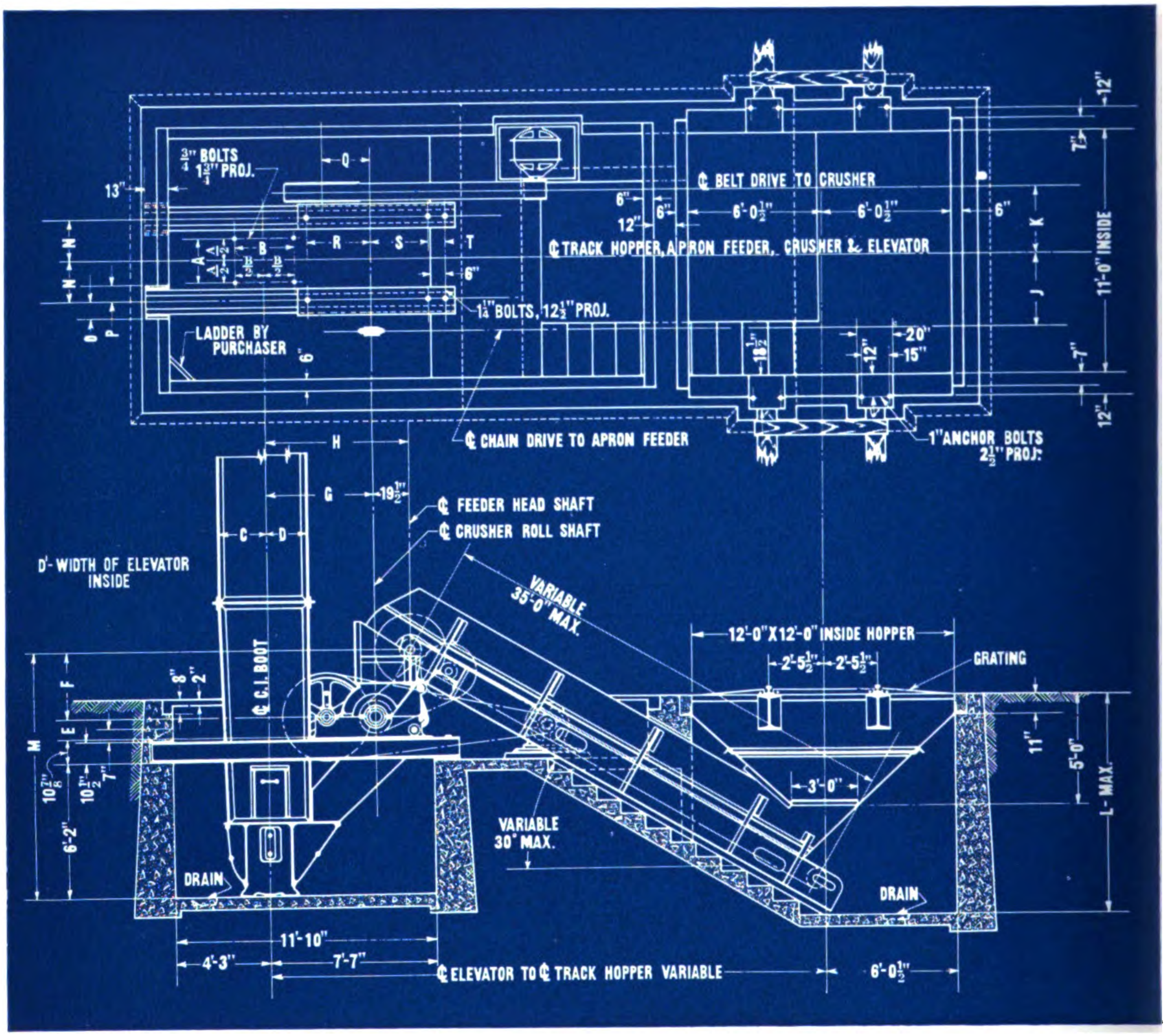
General arrangement of a Jeffrey Double Concrete Track Hopper with double Reciprocating Plate Feeder to handle Coal through Single Roll Crusher to Main Conveyor.

Size Crusher	A	B	C	D	E	F	G	H	J	K	Mesh of Grating ‡	Motor Req'd H. P.	Motor Req'd Speed
24 x 24	10'-0½"	2'-8½"	2'-9"	12 15/16"	2'- 4¾"	19¼"	21"	5 3/8"	2'-0"	15"	14"	25	860
30 x 30	10'-5"	3'-1"	3'-3"	18 15/16"	2'-11 3/8"	22⅛"	2'-1½"	6½"	2'-6"	18"	20"	35	860

‡Grating omitted when maximum size of piece does not exceed tabulated dimensions.
Purchaser to determine thickness of pit walls to suit local soil conditions.
For detailed information on Single Roll Crusher, see pages 565 to 582.

Where local conditions will not permit of installing a 12x12 Hopper, an 8x8 or 10x10 Hopper requiring less depth and ground space can be furnished.

Track Hoppers and Feeders



General arrangement of a Jeffrey 12 x 12 Steel Track Hopper with Apron Feeder to handle Coal through Single Roll Crusher to Bucket Elevator.

ELEVATORS							
Capacity Tons per Hour	No.	Centers	A	B	C	D	D1
23.2	115 144	0'-40' 41'-80'	19½" 20½"	20" 20"	2'-1' 2'-5"	19" 19"	15" 16"
25	119 149	0'-40' 41'-80'	21½" 22½"	20" 20"	2'-1" 2'-5"	19" 19"	17" 18"
36	122 152	0'-40' 41'-80'	2'-0" 2'-1"	2'-0" 2'-0"	2'-0" 2'-2"	22" 22"	19" 20"
50	Cont. Bucket	0'-40' 41'-80'	2'-0" 2'-1"	2'-0" 2'-0"	2'-0" 2'-2"	22" 22"	19" 20"

Where local conditions will not permit of installing a 12 x 12 Hopper, an 8 x 8 or 10 x 10 Hopper requiring less depth and ground space can be furnished.

‡Grating omitted when maximum size of piece does not exceed tabulated dimensions.

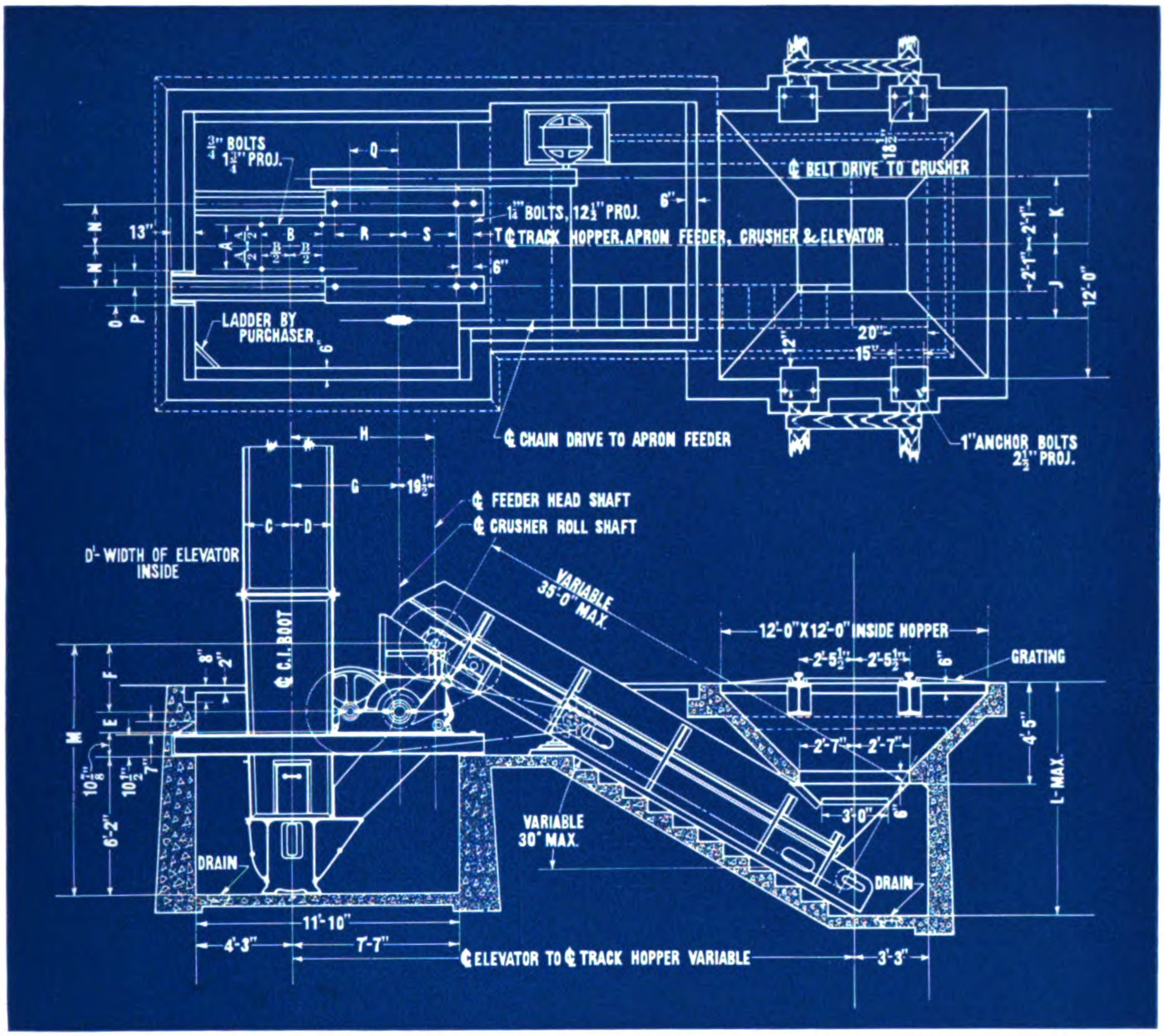
Purchaser to determine thickness of pit walls to suit local soil conditions.

For detailed information on Bucket Elevators, see pages 376 and 386.

For detailed information on Single Roll Crusher, see pages 565 to 582.

Feeder Using Chain No.	Size Crusher	Motor Req'd HP	Motor Req'd Speed	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	Mesh of Grating ‡
126 C 156 C or 951 S T R	24x24	25	860	10½"	3'-0"	4'-8⅛"	6'-3⅝"	2'-9"	2'- 4¾"	10'-0"	10'-11⅜"	17⅞"	8"	6"	21"	2'- 5½"	2'-2"	14⅞"	14"
	30x30	35	860	12"	3'-1"	4'-9½"	6'-5"	3'-3"	2'-11⅜"	10'-0"	11'- 1⅞"	22⅛"	9"	9"	2'-1½"	2'-10¼"	2'-6¾"	8¾"	20"
809 S T R	24x24	25	860	10½"	3'-3"	4'-8⅛"	6'-3⅝"	2'-9"	2'- 4¾"	10'-6"	11'- 2⅜"	17⅞"	8"	6"	21"	2'- 5½"	2 -2"	14⅞"	14"
	30x30	35	860	12"	3'-4"	4'-9½"	6'-5"	3'-3"	2'-11⅜"	10'-6"	11'- 4⅞"	22⅛"	9"	9"	2'-1½"	2'-10¼"	2'-6¾"	8¾"	20"

Track Hoppers and Feeders



General arrangement of a Jeffrey 12 x 12 Concrete Track Hopper with Apron Feeder to handle Coal through Single Roll Crusher to Bucket Elevator.

ELEVATORS							
Capacity Tons per Hour	No.	Centers	A	B	C	D	D1
23.2	115 144	0'-40' 41'-80'	19½" 20½"	20" 20"	2'-1" 2'-5"	19" 19"	15" 16"
25	119 149	0'-40' 41'-80'	21½" 22½"	20" 20"	2'-1" 2'-5"	19" 19"	17" 18"
36	122 152	0'-40' 41'-80'	2'-0" 2'-1"	2'-0" 2'-0"	2'-0" 2'-2"	22" 22"	19" 20"
50	Cont. Bucket	0'-40' 41'-80'	2'-0" 2'-1"	2'-0" 2'-0"	2'-0" 2'-2"	22" 22"	19" 20"

Where local conditions will not permit of installing a 12 x 12 Hopper, an 8 x 8 or 10 x 10 Hopper requiring less depth and ground space can be furnished.

‡Grating omitted when maximum size of piece does not exceed tabulated dimensions.

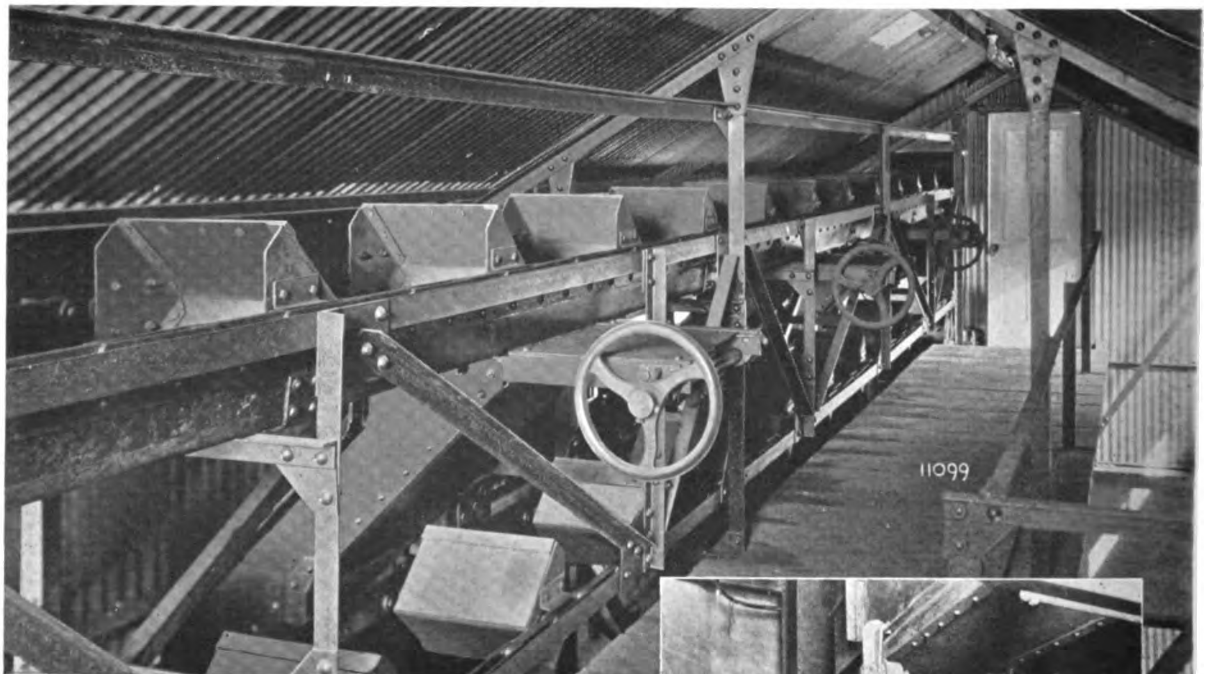
Purchaser to determine thickness of pit walls to suit local soil conditions.

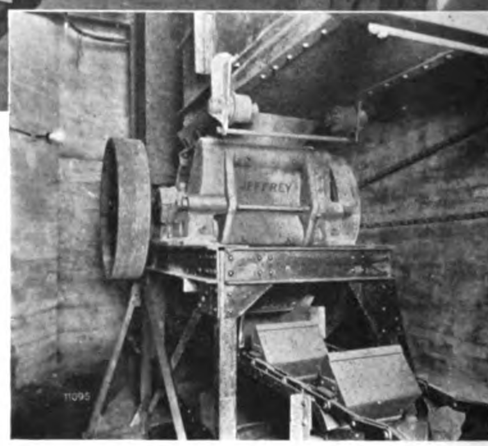
For detailed information on Bucket Elevators, see pages 376 and 386.

For detailed information on Single Roll Crusher, see pages 565 to 582.

Feeder Using Chain No.	Size Crusher	Motor Req'd HP	Motor Req'd Speed	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	‡Mesh of Grating
126 C 156 C or 951 S T R	24x24	25	860	10½"	3'-0"	4'-8⅛"	6'-3⅝"	2'-9"	2'- 4¾"	10'- 5"	10'-11⅜"	17⅞"	8"	6"	21"	2'- 5½"	2'-2"	14⅞"	14"
	30x30	35	860	12"	3'-1"	4'-9½"	6'-5"	3'-3"	2'-11⅜"	10'- 5"	11'- 1⅞"	22⅛"	9"	9"	2'-1½"	2'-10¼"	2'-6¾"	8¾"	20"
809 S T R	24x24	25	860	10½"	3'-3"	4'-8⅛"	6'-3⅝"	2'-9"	2'- 4¾"	10'-11"	11'- 2⅜"	17⅞"	8"	6"	21"	2'- 5½"	2'-2"	14⅞"	14"
	30x30	35	860	12"	3'-4"	4'-9½"	6'-5"	3'-3"	2'-11⅜"	10'-11"	11'- 4⅞"	22⅛"	9"	9"	2'-1½"	2'-10¼"	2'-6¾"	8¾"	20"

V-Bucket Conveyors





An Economical Conveyor for Power Plants of moderate capacity—Coaling Stations, Retail Coal Pockets and Yard Storage service.

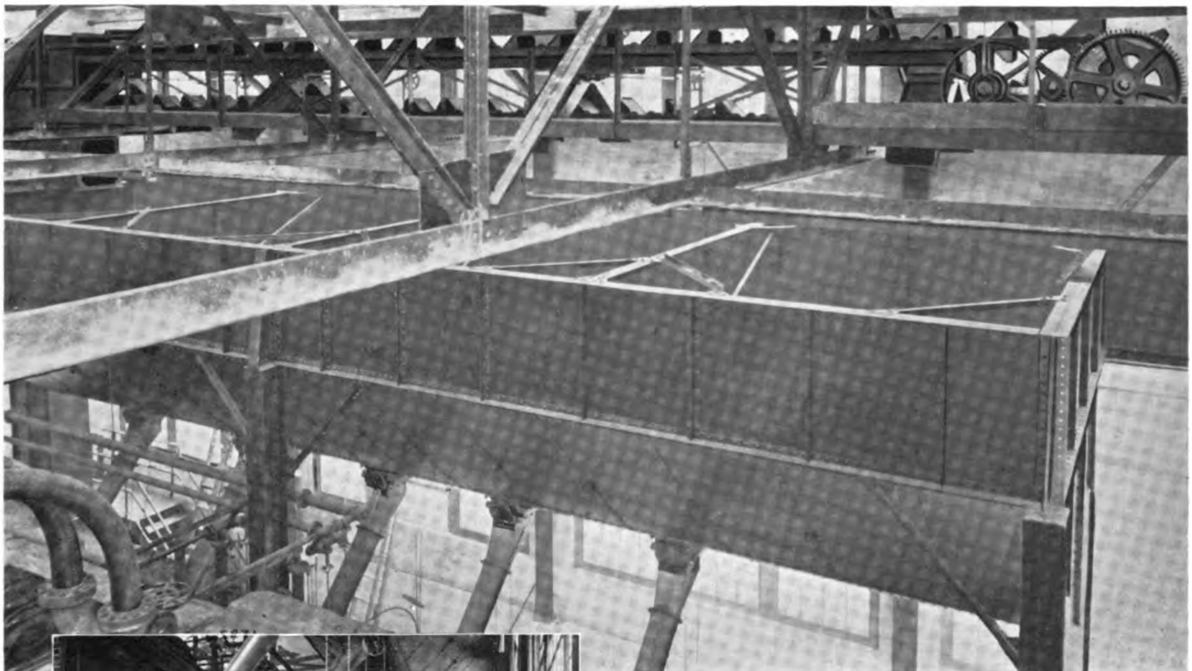
THE V-Bucket Conveyor so called because of the shape of its buckets, is a combination elevator and scraper conveyor. Primarily, its application is for conditions where material is to be distributed some distance from the vertical lift, or where local conditions will not permit of a vertical elevator being extended a sufficient height to spout the material to the points desired.

An important feature of the V-Bucket Conveyor is its ability to handle large material and is therefore used extensively where the size of the pieces to be handled is beyond the range of the ordinary bucket elevator.

When operating on the horizontal, the V-Bucket Conveyor scrapes or pushes the material along in the trough, discharging by means of valves and chutes. Its use therefore should be confined to handling material of a semi-abrasive nature such as coal, lime, etc., since the wear on the trough and bucket lips when handling material of a more abrasive nature is quite excessive.

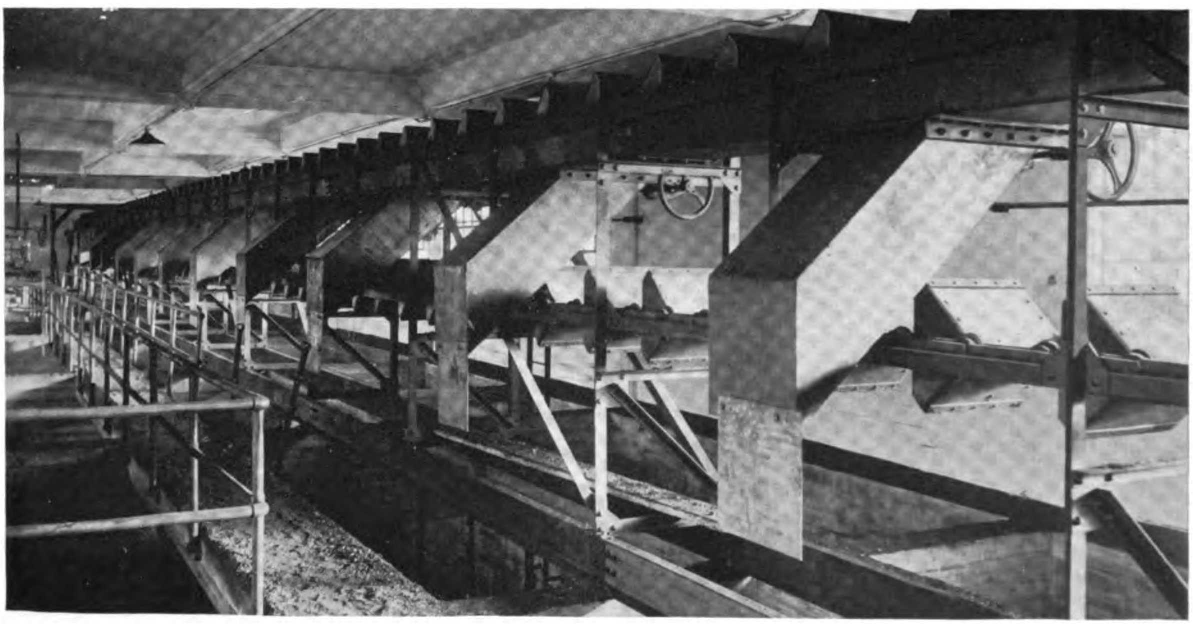
Installation views on the following pages show its range of application; its ability to meet various conditions and its working principle as a whole.

V-Bucket Conveyors

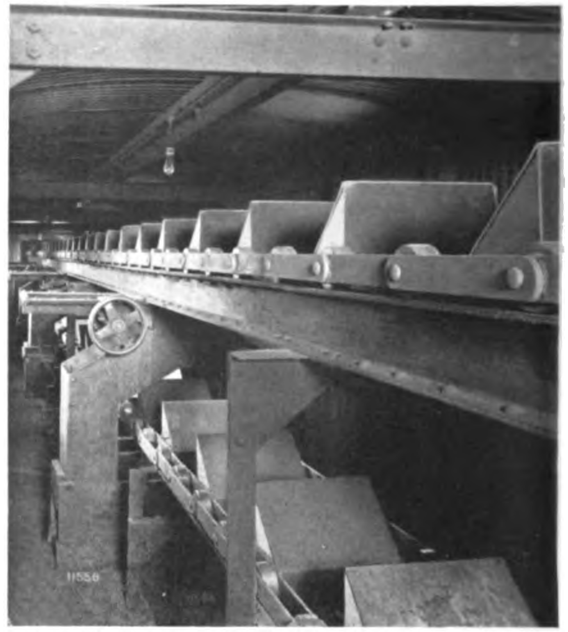


The V-Bucket Conveyor as installed in a large Soap Works for supplying coal to bunkers, and which has been in operation for many years. The V-Bucket Conveyor has proven itself both an economical and dependable coal handling system, in this and the many other plants where it has been installed.

Below is shown another Jeffrey V-Bucket Conveyor installed in a boiler house for conveying Coal from railroad cars to overhead bunker storage.

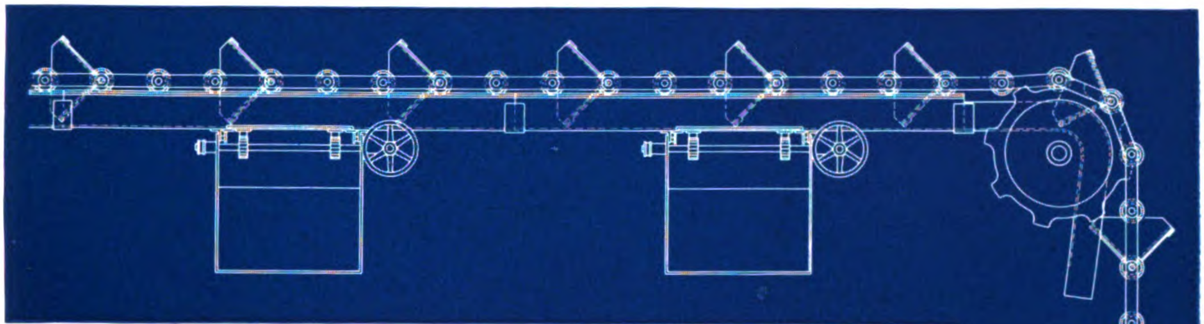


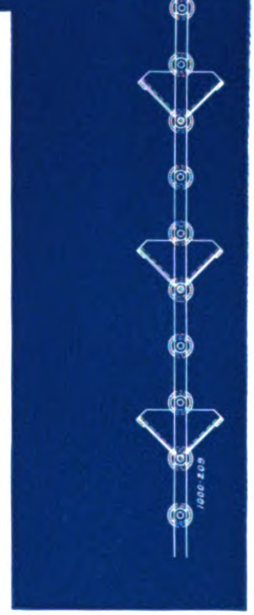
V-Bucket Conveyors



Jeffrey V-Bucket Conveyor serving a large Coal Pocket. The capacity and arrangement of the V-Bucket Conveyor readily lends itself to this class of service, and thus eliminates the necessity of using both an elevator and horizontal conveyor. For further information on Coal Pockets, see pages 156 to 158.

The Jeffrey V-Bucket Conveyor also offers an ideal arrangement for the handling of large quantities of coal in outside storage as shown in illustration above. The Conveyor serves both to store and reclaim the coal, which is received by means of a track hopper.





Combination Elevator and Conveyor

THE V-Bucket Conveyor, because of its flexibility of outline, readily lends itself to the needs of the modern boiler house. It may be installed as a run-a-round in the shape of a rectangle, Fig. 1, the lower run passing beneath the boiler room floor receiving its load at one or several points; the upper run passing over the bunker and discharging the coal so as to completely fill it.

Fig. 1.

With a slight change in outline from that shown in Fig. 1 to that in Fig. 2 with the rectangular portion encircling an outside storage pile, it is possible with one conveying unit to distribute coal from cars direct to bunkers or to ground storage or when occasion demands to reclaim from storage to bunkers.

Fig. 2.

Another common V-Bucket installation is that shown in outline Fig. 3 where it is used simply as a vertical elevator discharging its material upon a cross Conveyor where the size of the material handled is larger than could be handled with the ordinary Bucket Elevator

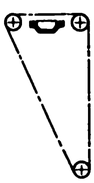


Fig. 3.

The larger number of V-Bucket installations however, follow the outline shown in Fig. 4 and for that reason this outline was adopted for the standard conveyors shown on following pages.

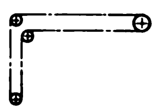


Fig. 4.

The vertical lift of forty feet with a horizontal run of eighty feet as given in the standards was found to be a very fair average of hundreds of V-Bucket installations; however, these dimensions may be varied to suit local conditions in the ratio of 2 to 1, that is, for every foot decrease in vertical lift the horizontal run may be increased 2 feet and vice-versa without affecting the size of the terminals or the horsepower given in the tables.

NOTE—For Conveyors beyond the standard limits, specifications and data will be furnished upon request.

Flexibility of the Standard Conveyors

If local conditions are such that an outline as shown in Figs. 1, 2 or 3 would better suit the needs, a standard conveyor may be used and its outline made to conform to the requirements provided the combined vertical lift and horizontal run does not exceed that of the standard. In such an outline as Fig. 2 it is of course necessary to add an additional shaft with its sprockets, bearings etc., of the same sizes as the foot shaft.

V-Bucket Conveyors

Operation

The operation of a V-Bucket system, when following an outline such as the standards, is much the same as that of an ordinary Bucket Elevator and Scraper Conveyor. The material is delivered into a boot, is scooped up by the up-going buckets and elevated vertically to the upper corner sprockets where the buckets, being rigidly attached to the chains, turn with the chains thru an angle of 90 degrees and discharge the material into the trough of the upper horizontal run.

To prevent material from spilling as the buckets pass from a vertical to a horizontal position, the trough of the horizontal run is curved around the corner sprockets in such a way that the lips of the buckets just clear the trough bottom in passing around the sprockets. The buckets when operating horizontally act as scrapers and scrape or push the material along in front of them until one of the several openings, controlled by a valve, is reached where it drops thru and is diverted around the return strand of chain and buckets by means of a bifurcated or two way spout.

Capacity and Size of Material.

The capacities of the Standard Conveyors range from 28 to 92 tons of coal per hour when operating at a speed of 100 feet per minute.

The uniform or average size of unsized material varies from dust to pieces 6-inch cubes while the maximum size pieces are twice as large as the average size pieces handled by the various buckets with a limit of 12-inch cubes for the 30″ by 24″ bucket, but the amount of maximum size pieces should not exceed ten per cent. of the whole.

In the selection of a Standard Conveyor for a given service the first thought is perhaps that of capacity and while it is essential to select a conveyor whose buckets will deliver the amount of material required, the size of the pieces to be handled must not be lost sight of and a bucket that will take care of the maximum size pieces should be chosen irrespective of the capacity requirements. For instance, suppose it is required to handle twenty-five tons of lump coal per hour, some of the lumps as large as 10 or 12 inch cubes. Any one of the standard conveyors would handle this amount of coal nicely but only the largest buckets would handle the large pieces while the capacity of a conveyor with such buckets would be three or four times the requirements. In such instances it is recommended that the speed of the conveyor be reduced proportionately, thereby materially increasing the life of the equipment.

Power Requirements.

The amount of power required to operate the various conveyors is given in the specification tables for each conveyor and is listed under the second countershaft. The value given in each instance is for that particular conveyor with a vertical lift of 40 feet and a horizontal run of 80 feet operating at a speed of 100 feet per minute and handling the capacity listed. It is the power required at the second countershaft which has a keyseated extension to receive purchasers pulley or cut tooth gear if it is desired to direct-connect to a motor. To find size of motor to use add five percent to the value given in the tables.

While the horsepower listed varies with the capacity and centers of the conveyor, it is not recommended that the motor horsepower be decreased as these values decrease. However, as the horsepower is a direct function of the speed at which the conveyor is operating, it may be decreased proportionately with any decrease in speed.

Kind and Location of Valves.

The type of valves used with Jeffrey Standard V-Bucket Conveyors, unless otherwise specified by the purchaser, are the bevel gear operated rack and pinion type as shown on page 278. The operating hand wheel may be placed in a horizontal position as in Fig. 3, or vertical as in Fig. 4. The construction of the valve guides is such as to eliminate the possibility of fine material lodging on same and causing the valve plate to bind or stick.

In locating valves in the upper horizontal trough they should be so spaced as to serve the bunker or storage pile to the best advantage. For instance, in the case of conveyor operating over a bunker in a boiler house they should be spaced sufficiently close together to satisfactorily fill the bunker and at the same time be over a stoker spout, thereby insuring a direct supply of coal to the stokers.

V-Bucket Conveyors

Index to Standard V-Bucket Conveyors

Conveyor No.	Average Size Mat'l to be handled Inches	Maximum size pieces Inches	Capacity in Tons per Hour Coal	Size of Bucket—In.			Chain	Page Number
				Length	Width	Depth		
3249	3½	7	28	18	14	7	526 Vul	48
3250	4	8	42	20	16	8	526 Vul	48
3251	3½	7	28	18	14	7	516 F & R	50
3252	4	8	42	20	16	8	516 F & R	50
3253	3½	7	28	18	14	7	126C MR	52
3254	4	8	42	20	16	8	126C MR	52
3255	3½	7	28	18	14	7	951 STR	54
3256	4	8	42	20	16	8	951 STR	54
3257	4	8	31	20	16	8	558 Vul	56
3258	4½	9	47	24	18	9	558 Vul	56
3259	5	10	63	26	20	10	558 Vul	56
3260	4	8	31	20	16	8	518 F & R	58
3261	4½	9	47	24	18	9	518 F & R	58
3262	5	10	63	26	20	10	518 F & R	58
3263	4	8	28	20	16	8	276 STR	60
3264	4½	9	41	24	18	9	276 STR	60
3265	5	10	56	26	20	10	276 STR	60
3266	5	10	56	26	20	10	180 STR	62
3267	6	12	92	30	24	12	180 STR	62
3268	6	12	92	30	24	12	182½ STR	64

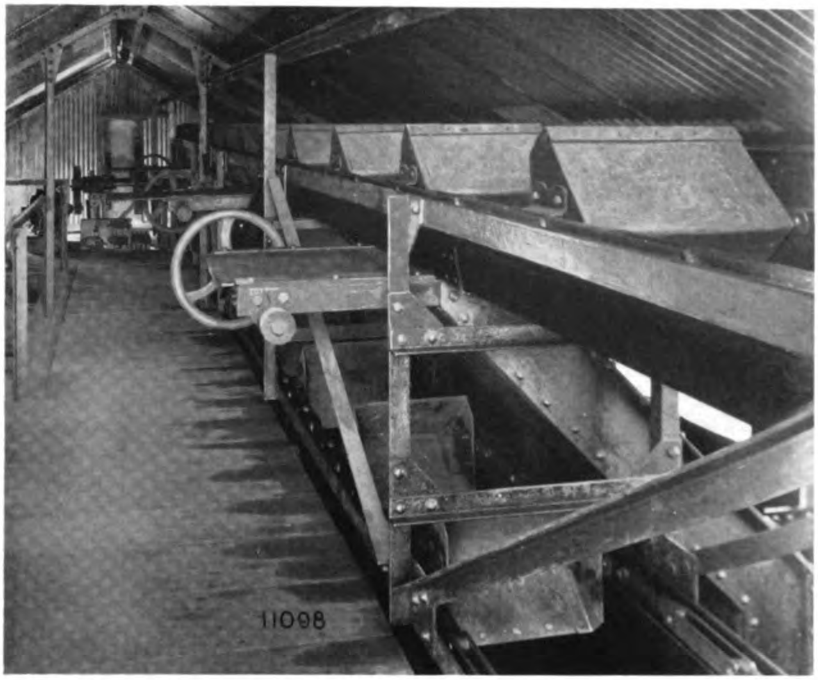
How to Select Conveyors from Tables

THE Index and Table of Capacities given above together with tables of specifications on following pages make it a simple matter to select the Conveyor to suit requirements. While the data given is based on the installation shown in Figure 4 on page 45, the same can be used for installations following other outlines, providing the combined vertical lift and horizontal run does not exceed that of the standard.

In selecting a Conveyor, the "Average Size Material to be handled", "Maximum Size Pieces", "Capacity in Tons per Hour" and the "Lift and Run of Conveyor", must first be determined. For example, let us assume the Average Size of Material is 4-inch pieces, the Maximum Size 10-inch pieces, the Capacity Requirement 40 tons per hour, the Lift (center to center of sprockets) is 35 feet and the Run (center to center of sprockets) is 86 feet. In the second column of the table above it will be noted that there are 7 sizes that permit of an average size piece of 4 inches, but only four sizes are listed for a maximum piece of 10 inches.

In the capacity column it will be found that the majority of sizes will handle 40 tons per hour, however, only those having a 26″ x 20″ x 10″ bucket will handle 10 inch lumps. Therefore either Conveyors No. 3259, 3262, 3265 or 3266 will meet the requirements providing the centers do not exceed those of the standard conveyors. The 86 feet of run is in excess of that listed in the table by 6 feet, but since the lift is less by 5 feet, any one of the four Conveyors may be used, because a decrease of one foot in the Lift allows an addition of 2 feet on the Run. Referring to pages indicated opposite the Conveyors noted you will find Specifications and Dimensions and by comparison of same it is an easy matter to select the Conveyor best suited.

V-Bucket Conveyors—Using No. 526 Vulcan Chain



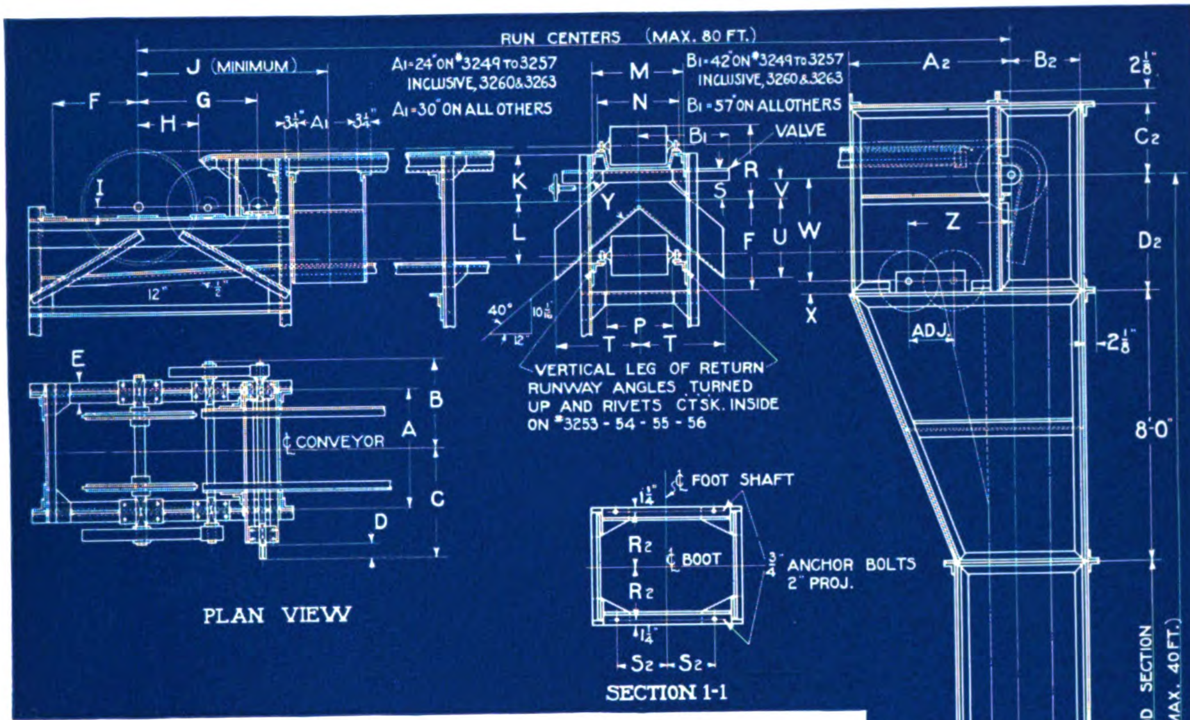
Installation View of Jeffrey V-Bucket Conveyor using No. 526 Vulcan Chain.

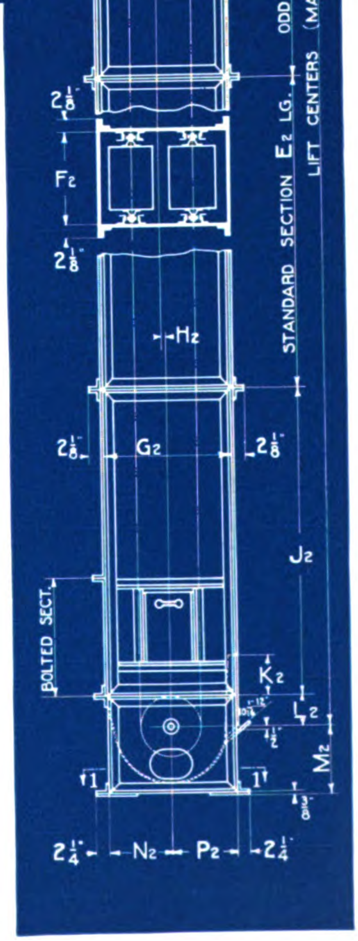
Specifications

MATERIAL: Coal or similar material weighing approximately 50 lbs. per cu. ft.
SPEED: 100 Feet per minute. MAX. CENTERS: 40 ft. vertical, 80 ft. horizontal

Number of Elevator	3249	3250
Size of Material—Inches		
Uniform or Average of unsized Material	3½	4
Maximum size not to exceed 10% of whole	7	8
Capacity—Tons per Hour	28	42
Chain		
Number	526 Vul.	526 Vul.
Attachments	V E-1	V E-1
Pitch—Inches	6	6
Working Strength—Lbs.	1640	1640
Buckets—Inches		
Length	18	20
Width	14	16
Depth	7	8
Gauge	10	10
Spacing	24	24
Headshaft—Inches		
Diameter of Shaft	2 15/16	3 7/16
Revolutions per Minute	11.1	11.1
Diameter of Sprocket	34⅝	34⅝
Diameter of Gear	35.82	35.82
Pitch of Gear	1½	1½
Face of Gear	4	4
1st Countershaft—Inches		
Diameter of Pinion	7.22	7.22
Face of Pinion	4½	4½
1st Countershaft-In.-Cont'd		
Diameter of Shaft	2 7/16	2 15/16
Revolutions per Minute	56	56
Diameter of Gear	25.09	25.09
Pitch of Gear	1¼	1¼
Face of Gear	3	3
2nd Countershaft—Inches		
Diameter of Pinion	6.01	6.01
Face of Pinion	3¼	3¼
Diameter of Shaft	1 15/16	1 15/16
Revolutions per Minute	235	235
H. P. Required—Max. Ctrs.	7.5	9.5
Corner Shaft—Inches		
Diameter Shaft—upper corner	2 7/16	2 7/16
Diameter Sprocket—upper corner	23⅛	27
Diameter Shaft—lower corner	1 15/16	1 15/16
Diam. Sprocket—lower corner	19⅜	23⅛
Foot Shaft—Inches		
Diameter of Shaft	1 15/16	1 15/16
Diameter of Sprocket	19⅜	23⅛
Approx. Shipping Wgt.—Lbs.		
Chain and Buckets per Foot Centers	51	57
Machinery Terminals	2260	2630
Casing Terminals	4000	4580
Casing per Foot	127	137
Trough per Foot	32	35

V-Bucket Conveyors—Using No. 526 Vulcan Chain

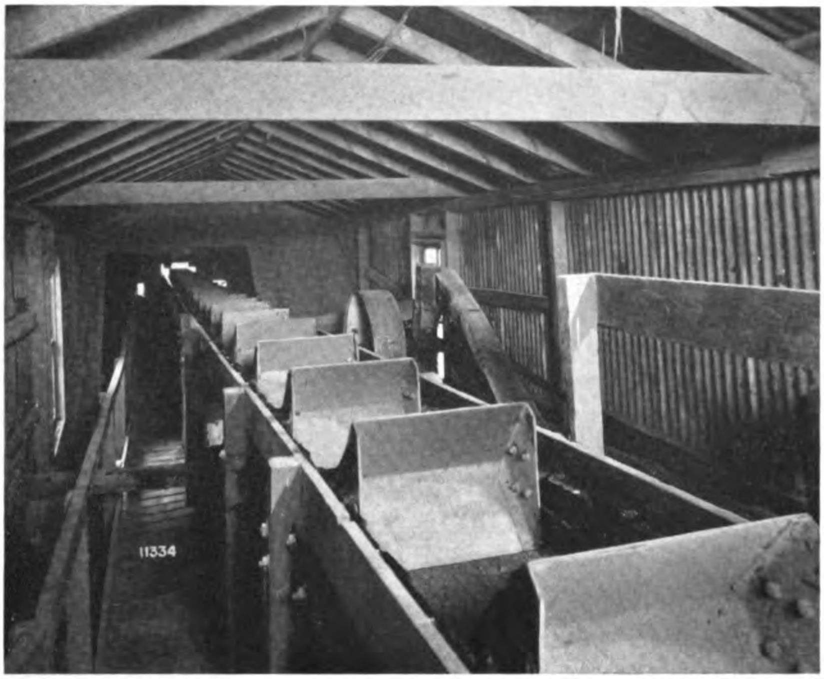


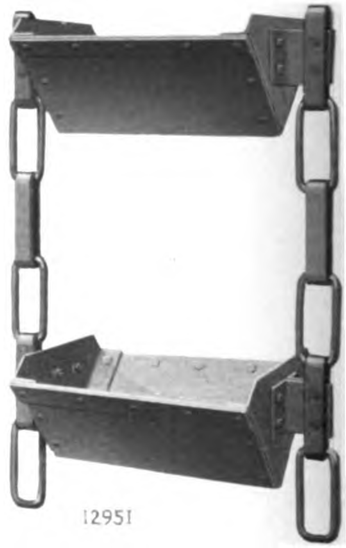


General Dimensions

Dimensions	ELEVATOR No. 3249	ELEVATOR No. 3250	Dimensions	ELEVATOR No. 3249	ELEVATOR No. 3250
A	36¾	40½	W	33¼	33¼
B	27⅛	30	X	2¾	2¾
C	36	39	Y	11½	12
D	6	6	Z	28⅞	30⅞
E	6¼	6¼	A2	49⅜	51⅜
F	28¾	29¾	B2	22⅝	26⅝
G	37⅛	37⅛	C2	21	24
H	18	18	D2	36	36
I	3⅝	4	E2	10′-0″	10′-0″
J	60	60	F2	29¾	31¾
K	15¾	15¾	G2	40	48
L	20	20	H2	1½	1½
M	27	29	J2	10′-0″	10′-0″
N	24¾	26¾	K2	7½	10½
P	20¾	22¾	L2	12	12
R	24⅛	25⅛	M2	20	24
S	8¼	7¼	N2	19	23
T	25	25	P2	21⅛	25⅛
U	18½	19½	R2	16¾	17¾
V	5¾	3⅞	S2	15	19

V-Bucket Conveyors—Using No. 516 F. and R. Chain





Installation View of Jeffrey V-Bucket Conveyor using No. 516 Flat and Round Chain.

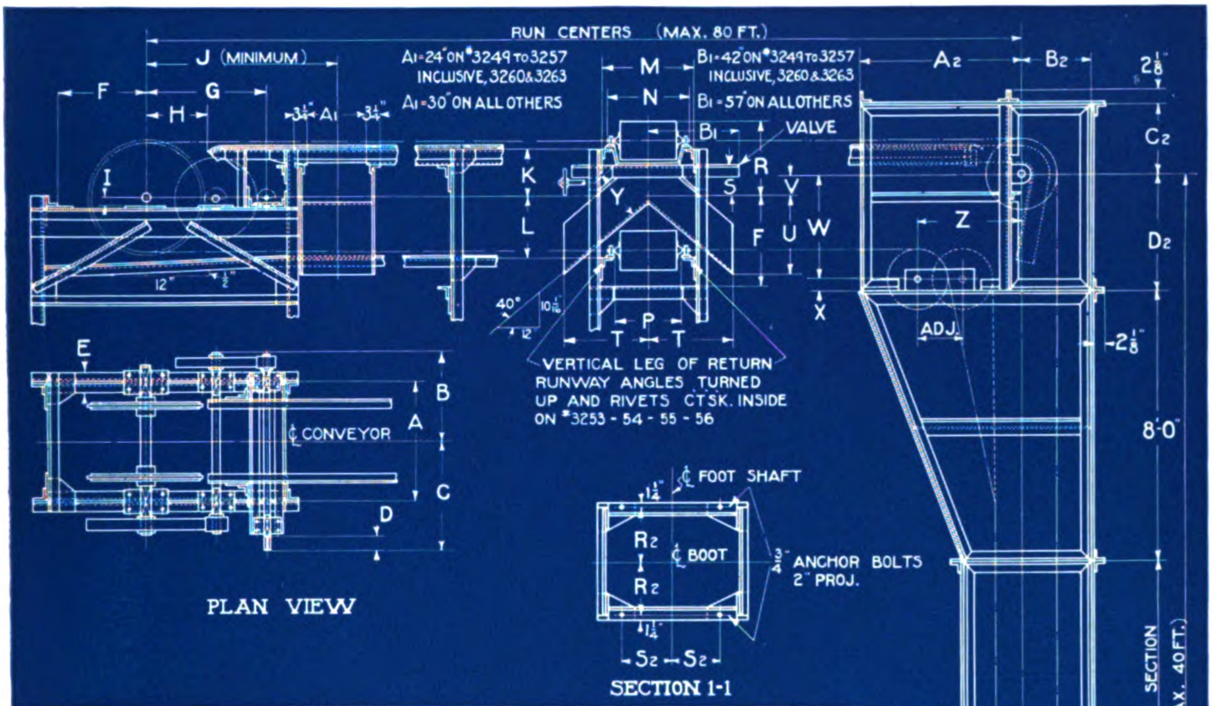
Specifications

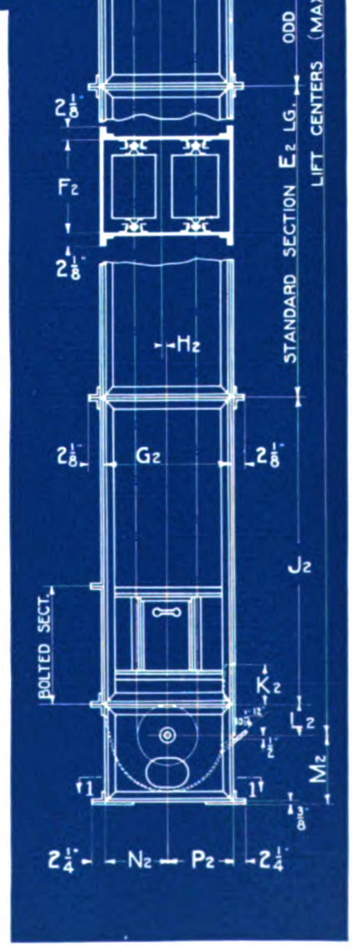
MATERIAL: Coal or similar material weighing approximately 50 lbs. per cu. ft.
SPEED: 100 Feet per minute. MAX. CENTERS: 40 ft. vertical, 80 ft. horizontal.

Number of Elevator	3251	3252
Size of Material—Inches		
Uniform or Average of unsized Material	$3\frac{1}{2}$	4
Maximum size not to exceed 10% of whole	7	8
Capacity—Tons per Hour	28	42
Chain		
Number	516 F & R	516 F & R
Attachments	V E-1	V E-1
Pitch—Inches	6	6
Working Strength—Lbs.	3400	3400
Buckets—Inches		
Length	18	20
Width	14	16
Depth	7	8
Gauge	10	10
Spacing	24	24
Headshaft—Inches		
Diameter of Shaft	$2\frac{15}{16}$	$3\frac{7}{16}$
Revolutions per Minute	11.1	11.1
Diameter of Sprocket	$34\frac{3}{4}$	$34\frac{3}{4}$
Diameter of Gear	35.82	35.82
Pitch of Gear	$1\frac{1}{2}$	$1\frac{1}{2}$
Face of Gear	4	4
1st Countershaft—Inches		
Diameter of Pinion	7.22	7.22
Face of Pinion	$4\frac{1}{2}$	$4\frac{1}{2}$

Number of Elevator	3251	3252
1st Countershaft-In.-Cont'd		
Diameter of Shaft	$2\frac{7}{16}$	$2\frac{15}{16}$
Revolutions per Minute	56	56
Diameter of Gear	25.09	25.09
Pitch of Gear	$1\frac{1}{4}$	$1\frac{1}{4}$
Face of Gear	3	3
2nd Countershaft—Inches		
Diameter of Pinion	6.01	6.01
Face of Pinion	$3\frac{1}{4}$	$3\frac{1}{4}$
Diameter of Shaft	$1\frac{15}{16}$	$1\frac{15}{16}$
Revolutions per Minute	235	235
H. P. Required—Max. Ctrs.	7.0	9.0
Corner Shafts—Inches		
Diameter Shaft—upper corner	$2\frac{7}{16}$	$2\frac{7}{16}$
Diameter Sprocket—upper corner	$23\frac{3}{8}$	$27\frac{3}{8}$
Diameter Shaft—lower corner	$1\frac{15}{16}$	$1\frac{15}{16}$
Diam. Sprocket—lower corner	$19\frac{5}{8}$	$23\frac{3}{8}$
Foot Shaft—Inches		
Diameter of Shaft	$1\frac{15}{16}$	$1\frac{15}{16}$
Diameter of Sprocket	$19\frac{5}{8}$	$23\frac{3}{8}$
Approx. Shipping Wgt.—Lbs.		
Chain and Buckets per Ft. Centers	47	53
Machinery Terminals	2210	2580
Casing Terminals	4000	4580
Casing per Foot	127	137
Trough per Foot	32	35

V-Bucket Conveyors—Using No. 516 F. and R. Chain

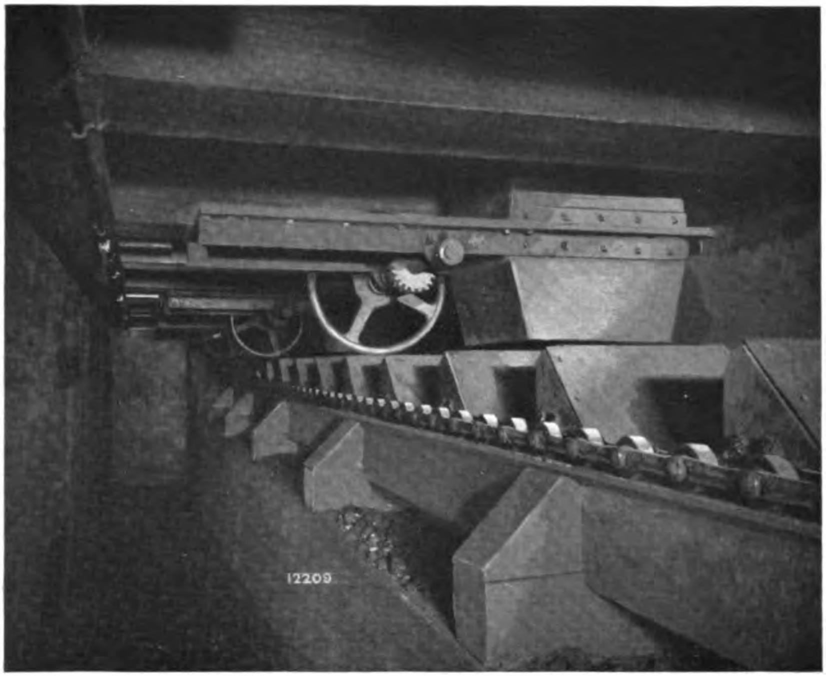




General Dimensions

Dimensions	ELEVATOR No. 3251	ELEVATOR No. 3252	Dimensions	ELEVATOR No. 3251	ELEVATOR No. 3252
A	36¾	40½	W	33¼	33¼
B	27⅛	30	X	2¾	2¾
C	36	39	Y	11½	12
D	6	6	Z	28⅞	30⅞
E	6¼	6¼	A2	49⅜	51⅜
F	28¾	29¾	B2	22⅝	26⅝
G	37⅛	37⅛	C2	21	24
H	18	18	D2	36	36
I	3⅝	4	E2	10′-0″	10′-0″
J	60	60	F2	29¾	31¾
K	15¾	15¾	G2	40	48
L	20	20	H2	1½	1½
M	28	30	J2	10′-0″	10′-0″
N	25¾	27¾	K2	7½	10½
P	20¾	22¾	L2	12	12
R	24⅛	25⅛	M2	20	24
S	8¼	7¼	N2	19	23
T	25	25	P2	21⅛	25⅛
U	18½	19½	R2	16¾	17¾
V	5¾	3⅞	S2	15	19

V-Bucket Conveyors—Using No. 126-C M. R. Chain



Installation View of Jeffrey V-Bucket Conveyor using No. 126C Malleable Roller Chain.

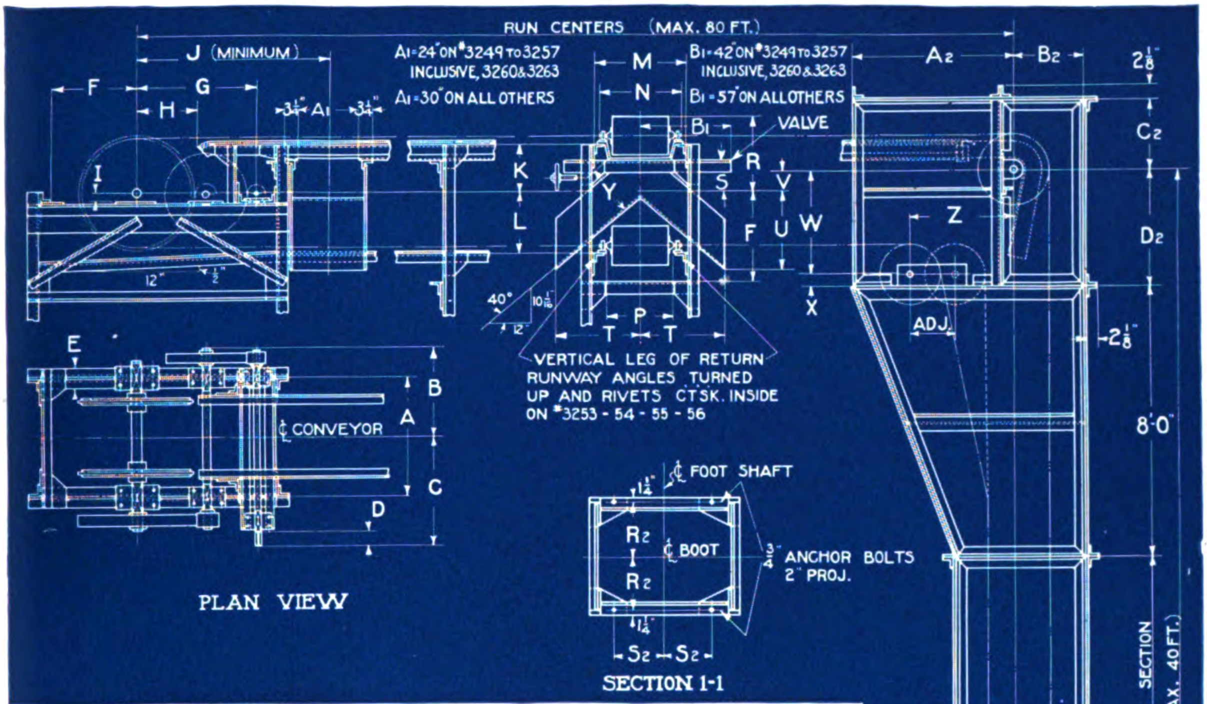
Specifications

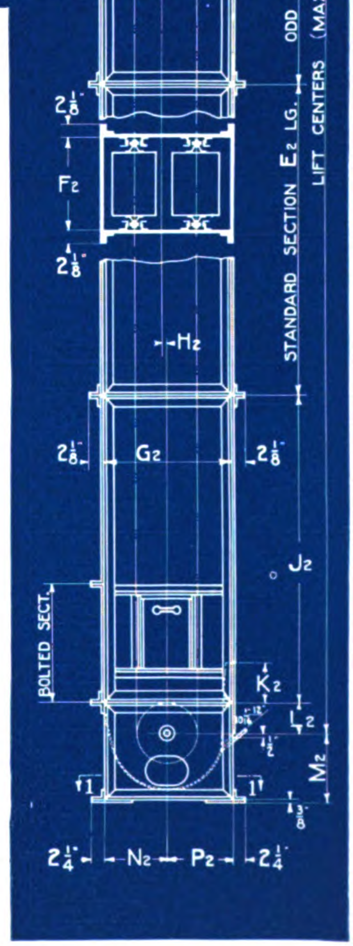
MATERIAL: Coal or similar material weighing approximately 50 lbs. per cu. ft.
SPEED: 100 Feet per minute. MAX. CENTERS: 40 ft. vertical, 80 ft. horizontal.

Number of Elevator	3253	3254
Size of Material—Inches		
Uniform or Average of unsized Material	$3\frac{1}{2}$	4
Maximum size not to exceed 10% of whole	7	8
Capacity—Tons per Hour	28	42
Chain		
Number	126 C M R	126 C M R
Attachments	V E-1	V E-1
Pitch—Inches	6	6
Working Strength—Lbs.	3100	3100
Buckets—Inches		
Length	18	20
Width	14	16
Depth	7	8
Gauge	10	10
Spacing	24	24
Headshaft—Inches		
Diameter of Shaft	$2\frac{15}{16}$	$3\frac{7}{16}$
Revolutions per Minute	11.1	11.1
Diameter of Sprocket	$34\frac{5}{8}$	$34\frac{5}{8}$
Diameter of Gear	35.82	35.82
Pitch of Gear	$1\frac{1}{2}$	$1\frac{1}{2}$
Face of Gear	4	4
1st Countershaft—Inches		
Diameter of Pinion	7.22	7.22
Face of Pinion	$4\frac{1}{2}$	$4\frac{1}{2}$
Diameter of Shaft	$2\frac{7}{16}$	$2\frac{15}{16}$

Number of Elevator	3253	3254
1st Countershaft-In.-Cont'd		
Revolutions per Minute	56	56
Diameter of Gear	25.09	25.09
Pitch of Gear	$1\frac{1}{4}$	$1\frac{1}{4}$
Face of Gear	3	3
2nd Countershaft—Inches		
Diameter of Pinion	6.01	6.01
Face of Pinion	$3\frac{1}{4}$	$3\frac{1}{4}$
Diameter of Shaft	$1\frac{15}{16}$	$1\frac{15}{16}$
Revolutions per Minute	235	235
H. P. Required—Max. Ctrs.	7.0	9.0
Corner Shaft—Inches		
Diameter Shaft—upper corner	$2\frac{7}{16}$	$2\frac{7}{16}$
Diameter Sprocket—upper corner	$23\frac{1}{4}$	27
Diameter Shaft—lower corner	$1\frac{15}{16}$	$1\frac{15}{16}$
Diameter Sprocket—lower corner	$19\frac{3}{8}$	$23\frac{1}{4}$
Foot Shaft—Inches		
Diameter of Shaft	$1\frac{15}{16}$	$1\frac{15}{16}$
Diameter of Sprocket	$19\frac{3}{8}$	$23\frac{1}{4}$
Approx. Shipping Wgt.—Lbs.		
Chain and Buckets per Ft. Centers	59	65
Machinery Terminals	2430	2865
Casing Terminals	4000	4580
Casing per Foot	127	137
Trough per Foot	32	35

V-Bucket Conveyors—Using No. 126-C M. R. Chain





General Dimensions

Dimensions	ELEVATOR No. 3253	ELEVATOR No. 3254	Dimensions	ELEVATOR No. 3253	ELEVATOR No. 3254
A	37½	41¼	W	33¼	33¼
B	27½	30⅜	X	2¾	2¾
C	37	39	Y	11½	12
D	6	6	Z	28⅞	30⅞
E	6¼	6¼	A2	49⅜	51⅜
F	28¾	29¾	B2	22⅝	26⅝
G	37⅛	37⅛	C2	21	24
H	18	18	D2	36	36
I	3⅝	4	E2	10′-0″	10′-0″
J	60	60	F2	29¾	31¾
K	15	15	G2	40	48
L	20¾	20¾	H2	1½	1½
M	29	31	J2	10′-0″	10′-0″
N	26¾	28¾	K2	7½	10½
P	21½	23½	L2	12	12
R	24⅛	25⅛	M2	20	24
S	8¼	7¼	N2	19	23
T	25	25	P2	21⅛	25⅛
U	18½	19½	R2	16¾	17¾
V	5¾	3⅞	S2	15	19

V-Bucket Conveyors—Using No. 951 S. T. R. Chain

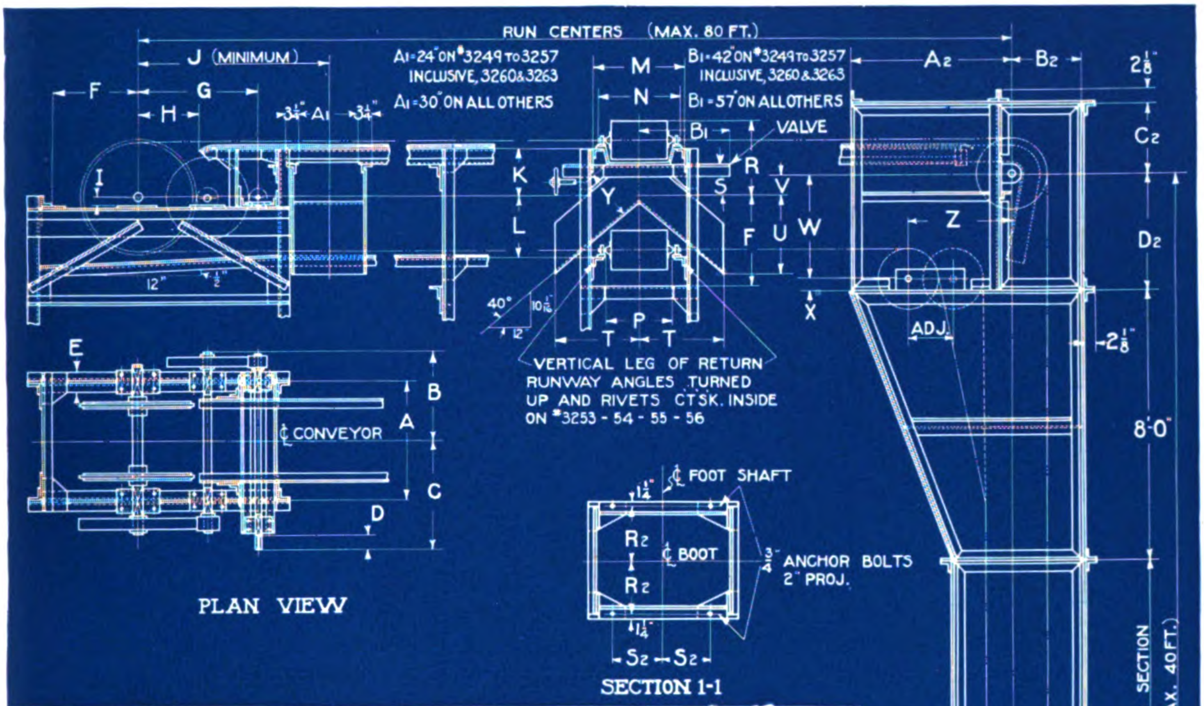
Installation View of Jeffrey V-Bucket Conveyor using No. 951 Steel Thimble Roller Chain.

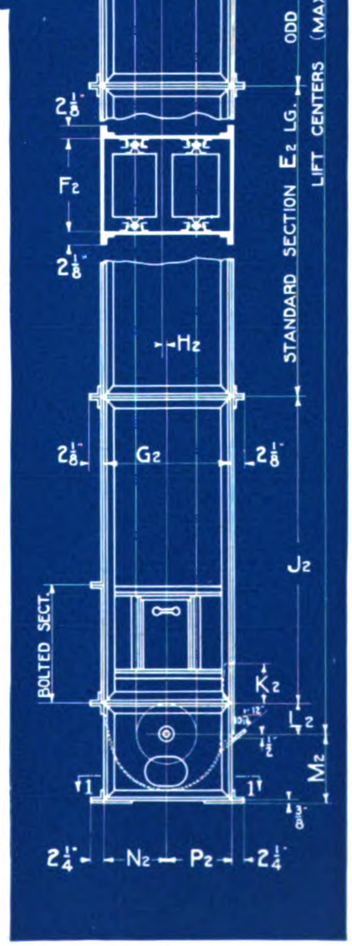
Specifications

MATERIAL: Coal or similar material weighing approximately 50 lbs. per cu. ft.
SPEED: 100 Feet per minute. MAX. CENTERS: 40 ft. vertical, 80 ft. horizontal.

Number of Elevator	3255	3256
Size of Material—Inches		
Uniform or Average of unsized Material	3½	4
Maximum size not to exceed 10% of whole	7	8
Capacity—Tons per Hour	28	42
Chain		
Number	951 S T R	951 S T R
Attachments	V E-1	V E-1
Pitch—Inches	6	6
Working Strength—Lbs.	3750	3750
Buckets—Inches		
Length	18	20
Width	14	16
Depth	7	8
Gauge	10	10
Spacing	24	24
Headshaft—Inches		
Diameter of Shaft	2 15/16	3 7/16
Revolutions per Minute	11.1	11.1
Diameter of Sprocket	34⅝	34⅝
Diameter of Gear	35.82	35.82
Pitch of Gear	1½	1½
Face of Gear	4	4
1st Countershaft—Inches		
Diameter of Pinion	7.22	7.22
Face of Pinion	4½	4½
Diameter of Shaft	2 7/16	2 15/16
1st Countershaft–In.–Cont'd		
Revolutions per Minute	56	56
Diameter of Gear	25.09	25.09
Pitch of Gear	1¼	1¼
Face of Gear	3	3
2nd Countershaft—Inches		
Diameter of Pinion	6.01	6.01
Face of Pinion	3¼	3¼
Diameter of Shaft	1 15/16	1 15/16
Revolutions per Minute	235	235
H. P. Required—Max. Ctrs.	6.5	8.5
Corner Shafts—Inches		
Diameter Shaft—upper corner	2 7/16	2 7/16
Diameter Sprocket—upper corner	23¼	27
Diameter Shaft—lower corner	1 15/16	1 15/16
Diameter Sprocket—lower corner	19⅜	23¼
Foot Shaft—Inches		
Diameter of Shaft	1 15/16	1 15/16
Diameter of Sprocket	19⅜	23¼
Approx. Shipping Wgt.—Lbs.		
Chain and Buckets per Ft. Centers	67	73
Machinery Terminals	2450	2890
Casing Terminals	4000	4580
Casing per Foot	127	137
Trough per Foot	32	35

V-Bucket Conveyors—Using No. 951 S. T. R. Chain

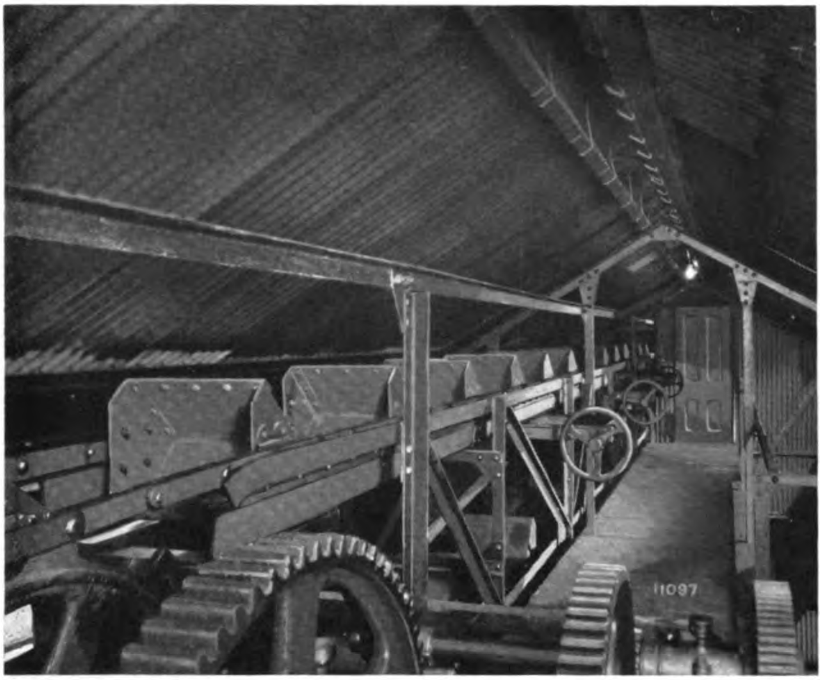




General Dimensions

Dimensions	ELEVATOR No. 3255	ELEVATOR No. 3256	Dimensions	ELEVATOR No. 3255	ELEVATOR No. 3256
A	37½	41¼	W	33¼	33¼
B	27½	30⅜	X	2¾	2¾
C	37	39	Y	11½	12
D	6	6	Z	28⅞	30⅞
E	6¼	6¼	A2	49⅜	51⅜
F	28¾	29¾	B2	22⅝	26⅝
G	37⅛	37⅛	C2	21	24
H	18	18	D2	36	36
I	3⅝	4	E2	10′-0″	10′-0″
J	60	60	F2	29¾	31¾
K	15	15	G2	40	48
L	20¾	20¾	H2	1½	1½
M	29	31	J2	10′-0″	10′-0″
N	26¾	28¾	K2	7½	10½
P	21½	23½	L2	12	12
R	24⅛	25⅛	M2	20	24
S	8¼	7¼	N2	19	23
T	25	25	P2	21⅛	25⅛
U	18½	19½	R2	16¾	17¾
V	5¾	3⅞	S2	15	19

V-Bucket Conveyors—Using No. 558 Vulcan Chain



Installation View of Jeffrey V-Bucket Conveyor using No. 558 Vulcan Chain.

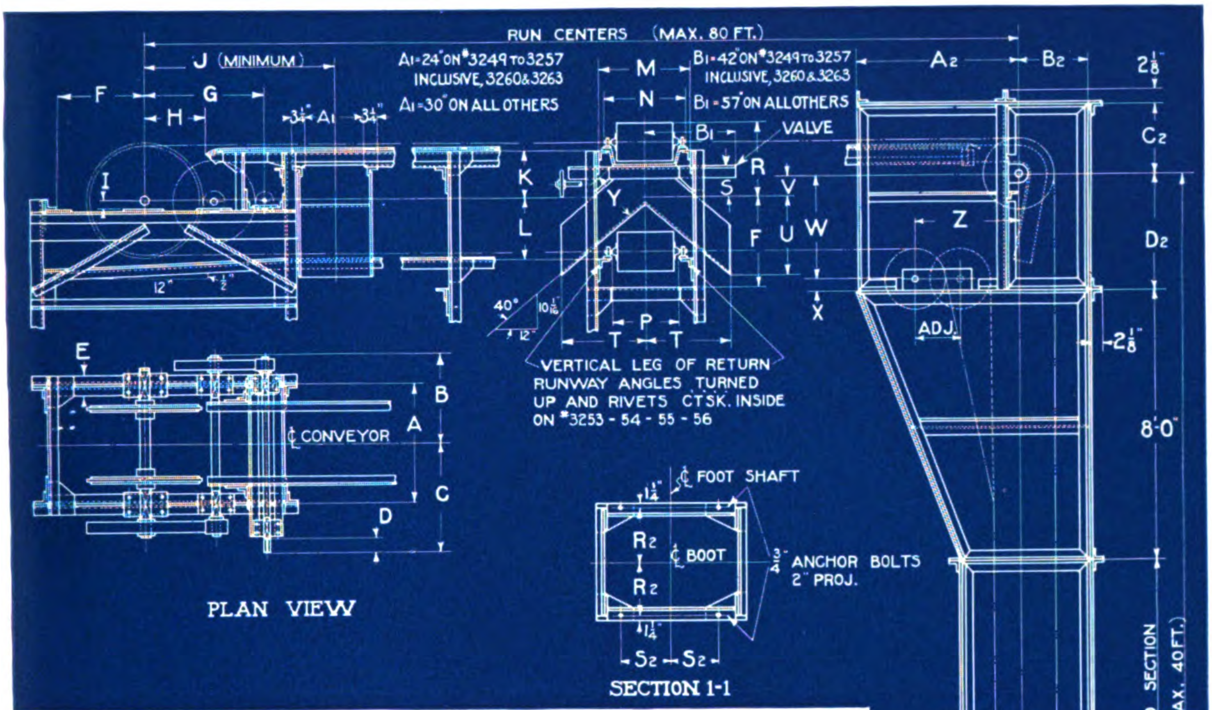
Specifications

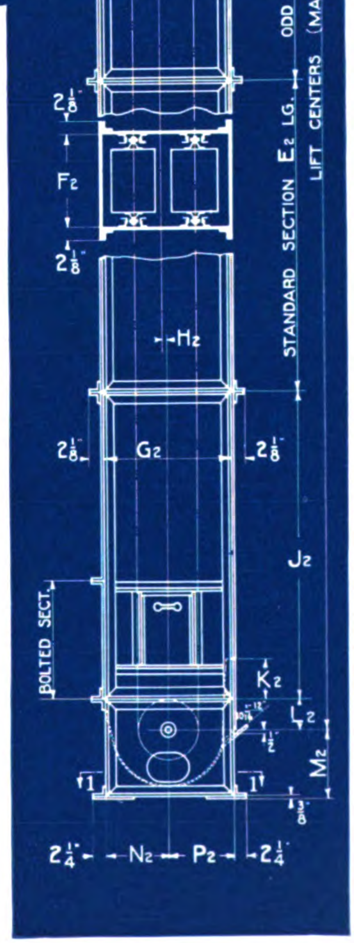
MATERIAL: Coal or similar material weighing approximately 50 lbs. per cu. ft.
SPEED: 100 Feet per minute. MAX. CENTERS: 40 ft. vertical, 80 ft. horizontal.

No. of Elevator	3257	3258	3259
Size of Material–In.			
Uniform or Avg. of unsized material	4	4½	5
Max. size not to exceed 10% of whole	8	9	10
Capacity—Tons per Hour	31	47	63
Chain			
Number	558 Vul.	558 Vul.	558 Vul.
Attachments	V E-1	V E-1	V E-1
Pitch—In.	8	8	8
Working Strength—Lbs.	2250	2250	2250
Buckets—In.			
Length	20	24	26
Width	16	18	20
Depth	8	9	10
Gauge	10	$\frac{3}{16}$	$\frac{3}{16}$
Spacing	32	32	32
Headshaft—In.			
Diam. of Shaft	$3\frac{7}{16}$	$3\frac{15}{16}$	$3\frac{15}{16}$
Rev. per minute	10.7	8.3	8.3
Diam. of Sprocket	36	46⅛	46⅛
Diam. of Gear	35.82	48.47	48.47
Pitch of Gear	1½	1¾	1¾
Face of Gear	4	5½	5½
1st Countershaft–In.			
Diam. of Pinion	7.22	7.86	7.86
Face of Pinion	4½	6	6
Diam. of Shaft	$2\frac{15}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$
Rev. per minute	54	52	52

No. of Elevator	3257	3258	3259
1st Countershaft—Inches—Cont'd			
Diam. of Gear	25.09	32.00	32.00
Pitch of Gear	1¼	1½	1½
Face of Gear	3	4	4
2nd Countershaft—Inches			
Diam. of Pinion	6.01	7.22	7.22
Face of Pinion	3¼	4½	4½
Diam. of Shaft	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$
Rev. per minute	225	230	230
H. P. Required—Max. Centers	8.5	11.5	14.0
Corner Shafts—In.			
Diam. Shaft, upper corner	$2\frac{7}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$
Diam. Sprocket—upper corner	25⅞	30⅞	30⅞
Diam. Shaft—lower corner	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$
Diam. Sprocket—lower corner	25⅞	25⅞	30⅞
Foot Shaft—In.			
Diam. of Shaft	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$
Diam. of Sprocket	25⅞	25⅞	30⅞
Approx. Shipping Weight—Lbs.			
Chain and Buckets per Ft. Ctrs.	56	76	84
Mach. Terminals	2920	4240	4464
Casing Terminals	4580	5200	5775
Casing per Foot	143	151	153
Trough per Foot	35	39	42

V-Bucket Conveyors—Using No. 558 Vulcan Chain

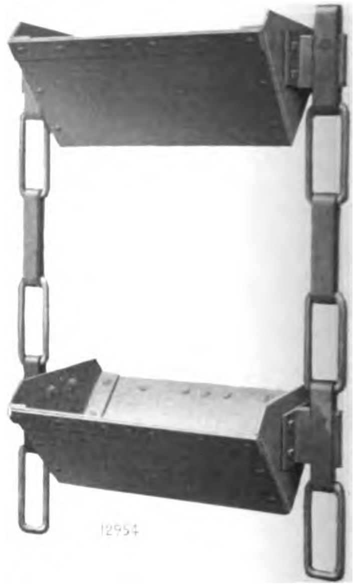




General Dimensions

Dimensions	ELEVATOR No. 3257	3258	3259	Dimensions	ELEVATOR No. 3257	3258	3259
A	40¾	47	49	W	35¼	44⅜	46⅜
B	30⅛	33¼	34¼	X	2¾	3⅛	3⅛
C	39	44	45	Y	12	18	18½
D	6	6	6	Z	37⅜	41⅞	45⅞
E	6¼	8¼	8¼	A2	63⅜	69⅞	73⅞
F	30½	37¼	38¼	B2	26⅝	30⅛	31⅛
G	37⅛	47¾	47¾	C2	24	26½	28½
H	19	22	22	D2	38	47½	49½
I	4	4⅝	4⅝	E2	8′-0″	8′-0″	10′-0″
J	60	75	75	F2	31¾	35¾	37¾
K	16⅛	21¼	21¼	G2	50	52	60
L	20½	26⅜	26⅜	H2	0	2⅜	0
M	29½	33½	35½	J2	7′-8″	7′-8″	9′-4″
N	27¼	31¼	33¼	K2	8½	8½	9½
P	23	27	29	L2	14	16½	18½
R	25⅝	31⅞	32⅞	M2	24	25½	29½
S	7½	11¾	10¾	N2	23½	24⅜	29
T	25	30	30	P2	26⅝	27¾	31⅛
U	19⅛	25⅛	26⅛	R2	17¾	19¾	20¾
V	5⅛	7⅝	7⅝	S2	19	20	25

V-Bucket Conveyors—Using No. 518 F. and R. Chain



Installation View of Jeffrey V- Bucket Conveyor using No. 518 Flat and Round Chain.

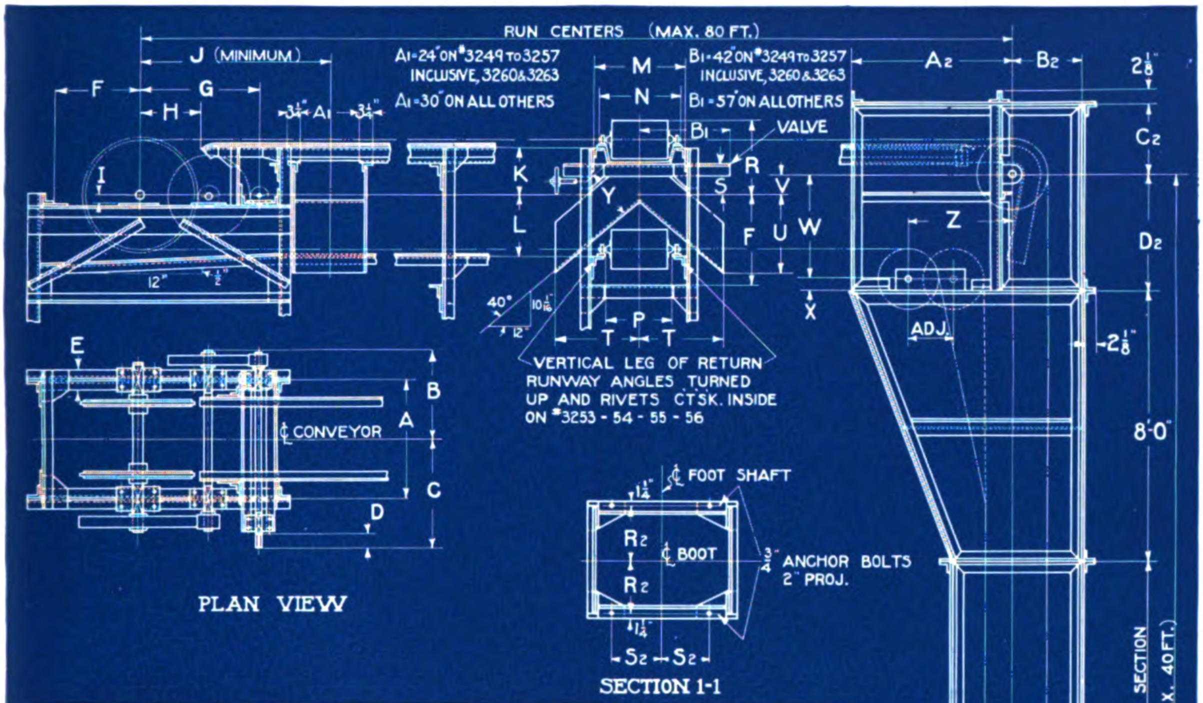
Specifications

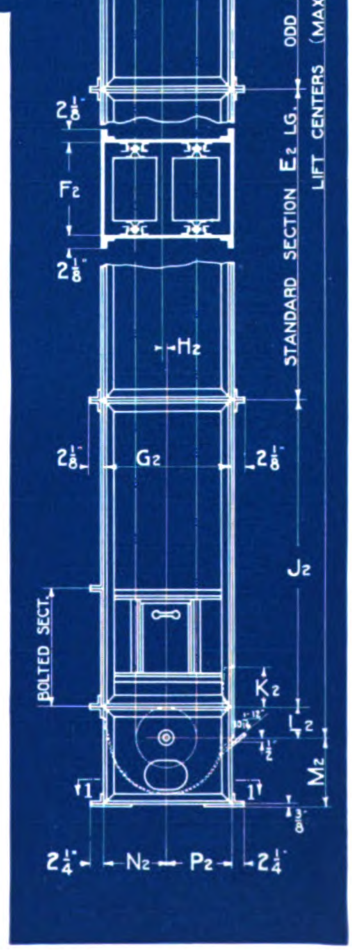
MATERIAL: Coal or similar material weighing approximately 50 lbs. per cu. ft.
SPEED: 100 Feet per minute. MAX. CENTERS: 40 ft. vertical, 80 ft. horizontal.

No. of Elevator	3260	3261	3262
Size of Material—In.			
Uniform or Avg. of unsized material	4	4½	5
Max. size not to exceed 10% of whole	8	9	10
Capacity—Tons per Hour	31	47	63
Chain			
Number	518 F & R	518 F & R	518 F & R
Attachments	V E-1	V E-1	V E-1
Pitch—Inches	8	8	8
Working Strength—Lbs.	5225	5225	5225
Buckets—In.			
Length	20	24	26
Width	16	18	20
Depth	8	9	10
Gauge	10	$\frac{3}{16}$	$\frac{3}{16}$
Spacing	32	32	32
Headshaft—In.			
Diam. of Shaft	$3\frac{7}{16}$	$3\frac{15}{16}$	$3\frac{15}{16}$
Rev. per minute	10.7	8.3	8.3
Diam. of Sprocket	36¼	46¼	46¼
Diam. of Gear	35.82	48.47	48.47
Pitch of Gear	1½	1¾	1¾
Face of Gear	4	5½	5½
1st Countershaft-In.			
Diam. of Pinion	7.22	7.86	7.86
Face of Pinion	4½	6	6
Diameter of Shaft	$2\frac{15}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$
Rev. per minute	54	52	52
Diam. of Gear	25.09	32.00	32.00

No. of Elevator	3260	3261	3262
1st Countershaft-In. Continued			
Pitch of Gear	1¼	1½	1½
Face of Gear	3	4	4
2nd Countershaft—Inches			
Diam. of Pinion	6.01	7.22	7.22
Face of Pinion	3¼	4½	4½
Diam. of Shaft	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$
Rev. per minute	225	230	230
H. P. Required—Max. Ctrs.	8	11	13.5
Corner Shafts—In.			
Diam. Shaft—upper corner	$2\frac{7}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$
Diam. Sprocket—upper corner	26⅛	31⅛	31⅛
Diam. Shaft—lower corner	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$
Diam. Sprocket—lower corner	26⅛	26⅛	31⅛
Foot Shaft—In.			
Diam. of Shaft	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$
Diam. of Sprocket	26⅛	26⅛	31⅛
Approx. Shipping Weight—Lbs.			
Chain and Buckets per Ft. Ctrs.	58	78	86
Mach. Terminals	2975	4275	4481
Casing Terminals	4580	5200	5775
Casing per Foot	143	151	153
Trough per Foot	35	39	42

V-Bucket Conveyors—Using No. 518 F. and R. Chain

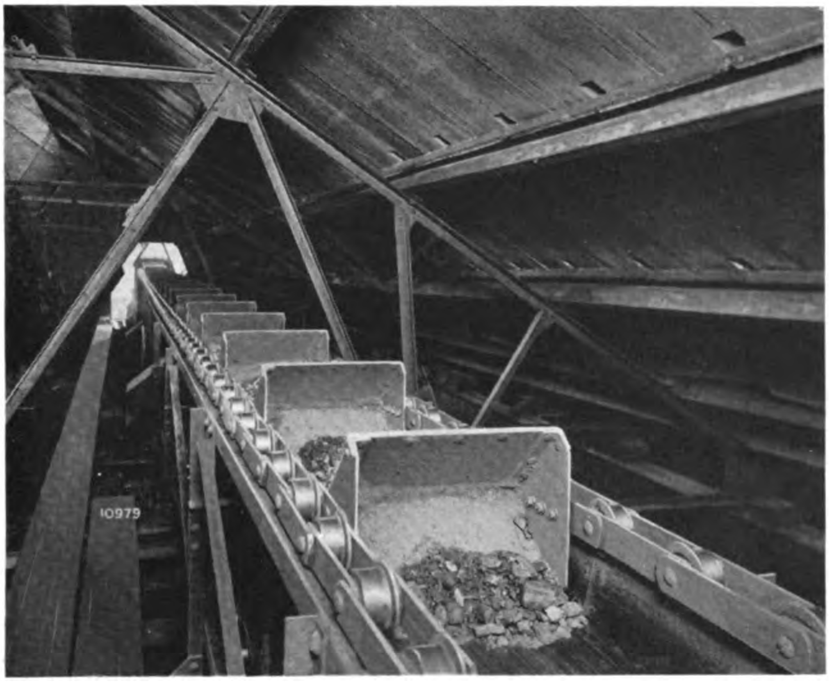




General Dimensions

Dimensions	ELEVATOR No. 3260	3261	3262	Dimensions	ELEVATOR No. 3260	3261	3262
A	40¾	47	49	W	35¼	44⅜	46⅜
B	30⅛	33¼	34¼	X	2¾	3⅛	3⅛
C	39	44	45	Y	12	18	18½
D	6	6	6	Z	37⅜	41⅞	45⅞
E	6¼	8¼	8¼	A2	63⅜	69⅞	73⅞
F	30½	37¼	38¼	B2	26⅝	30⅛	31⅛
G	37⅛	47¾	47¾	C2	24	26½	28½
H	19	22	22	D2	38	47½	49½
I	4	4⅝	4⅝	E2	8′-0″	8′-0″	10′-0″
J	60	75	75	F2	31¾	35¾	37¾
K	16⅛	21¼	21¼	G2	50	52	60
L	20½	26⅜	26⅜	H2	0	2⅜	0
M	30½	34½	36½	J2	7′-8″	7′-8″	9′-4″
N	28½	32½	34½	K2	8½	8½	9½
P	23	27	29	L2	14	16½	18½
R	25⅝	31¾	32¾	M2	24	25½	29½
S	7½	11¾	10¾	N2	23½	24⅜	29
T	25	30	30	P2	26⅝	27¾	31⅛
U	19⅛	25⅛	26⅛	R2	17¾	19¾	20¾
V	5⅛	7⅝	7⅝	S2	19	20	25

V-Bucket Conveyors—Using No. 276 S. T. R. Chain



Installation View of Jeffrey V-Bucket Conveyor using No. 276 Steel Thimble Roller Chain.

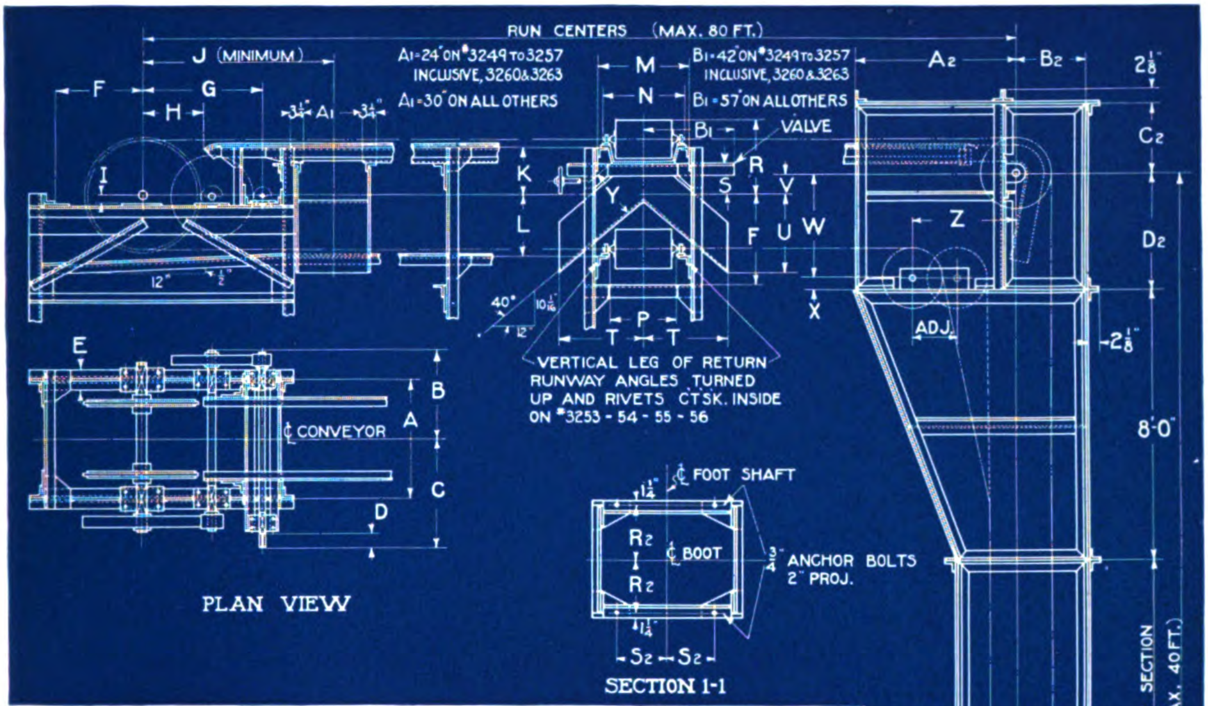
Specifications

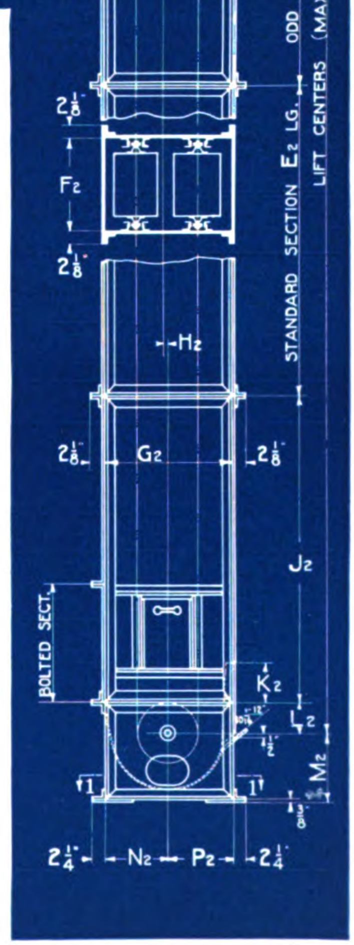
MATERIAL: Coal or similar material weighing approximately 50 lbs. per cu. ft.
SPEED: 100 Feet per minute. MAX. CENTERS: 40 ft. vertical, 80 ft. horizontal.

No. of Elevator	3263	3264	3265
Size of Material—Inches			
Uniform or Average of unsized material	4	4½	5
Max. size not to exceed 10% of whole	8	9	10
Capacity—Tons per Hour	28	41	56
Chain			
Number	276 STR	276 STR	276 STR
Attachments	Washer	Washer	Washer
Pitch—Inches	12	12	12
Working Strength—Lbs.	5200	5200	5200
Buckets—In.			
Length	20	24	26
Width	16	18	20
Depth	8	9	10
Gauge	10	3/16	3/16
Spacing	36	36	36
Headshaft—In.			
Diam. of Shaft	2 15/16	3 15/16	3 15/16
Rev. per minute	10.0	8.3	8.3
Diam. of Sprocket	38 7/8	46½	46½
Diam. of Gear	40.12	48.47	48.47
Pitch of Gear	1½	1¾	1¾
Face of Gear	4	5½	5½
1st Countershaft—Inches			
Diam. of Pinion	7.22	7.86	7.86
Face of Pinion	4½	6	6
Diam. of Shaft	2 7/16	2 15/16	2 15/16

No. of Elevator	3263	3264	3265
1st Countershaft—Inches—Continued			
Rev. per minute	56	52	52
Diam. of Gear	25.09	32.00	32.00
Pitch of Gear	1¼	1½	1½
Face of Gear	3	4	4
2nd Countershaft—Inches			
Diam. of Pinion	6.01	7.22	7.22
Face of Pinion	3¼	4½	4½
Diam. of Shaft	1 15/16	2 7/16	2 7/16
Rev. per minute	235	230	230
H. P. Required—Max. Ctrs.	6.5	9	11.0
Corner Shaft—In.			
Diam. Shaft—upper corner	2 7/16	2 15/16	2 15/16
Diam. Sprocket—upper corner	31 3/8	31 3/8	31 3/8
Diam. Shaft—lower corner	1 15/16	2 7/16	2 7/16
Diam. Sprocket—lower corner	24	31 3/8	31 3/8
Foot Shaft—In.			
Diam. of Shaft	1 15/16	2 7/16	2 7/16
Diam. of Sprocket	24	31 3/8	31 3/8
Approx. Shipping Weight—Lbs.			
Chain and Buckets per Ft. Ctrs.	74	90	98
Mach. Terminals	3225	4750	4810
Casing Terminals	4720	5705	5775
Casing per Foot	135	152	153
Trough per Foot	42	38	41

V-Bucket Conveyors—Using No. 276 S. T. R. Chain

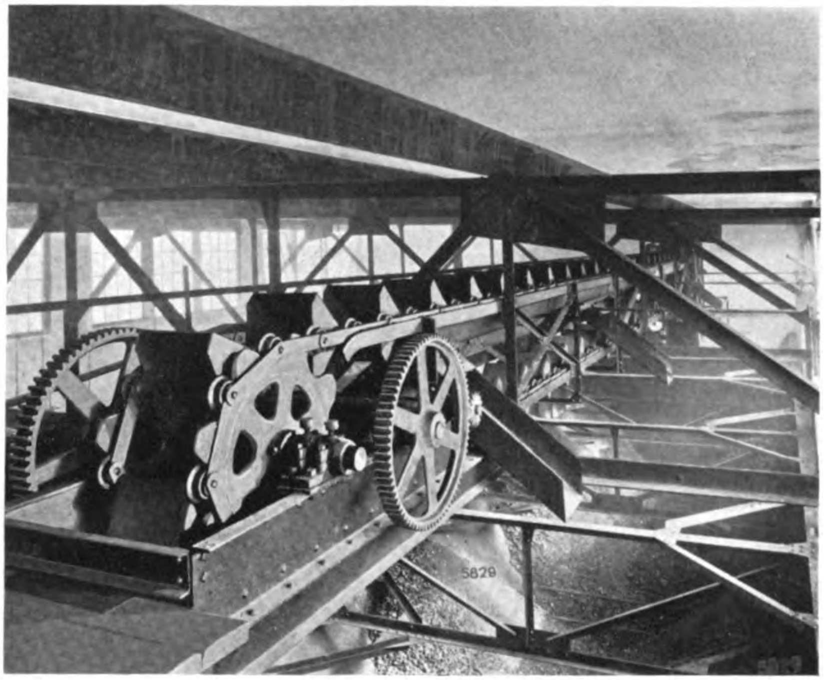




General Dimensions

Dimensions	ELEVATOR No. 3263	3264	3265	Dimensions	ELEVATOR No. 3263	3264	3265
A	39	47	49	W	33¼	46⅜	46⅜
B	28¼	33¼	34¼	X	2¾	3⅛	3⅛
C	37	44	45	Y	12	18	18½
D	6	6	6	Z	37⅜	45⅞	45⅞
E	6¼	8¼	8¼	A2	63⅜	73⅞	73⅞
F	31½	37¾	38¾	B2	28⅝	31⅛	31⅛
G	39¼	47¾	47¾	C2	26	28½	28½
H	19	22	22	D2	36	49½	49½
I	3⅝	4⅝	4⅝	E2	10′-0″	10′-0″	10′-0″
J	62	75	75	F2	31¾	35¾	37¾
K	16	19⅝	19⅝	G2	48	60	60
L	23	28	28	H2	3½	0	0
M	30½	34½	36½	J2	10′-0″	9′-4″	9′-4″
N	28½	32½	34½	K2	10½	9½	9½
P	24	28	30	L2	12	18½	18½
R	26⅝	31⅜	32⅜	M2	24	27½	29½
S	8½	11¼	10¼	N2	23	29	29
T	25	30	30	P2	25⅛	31⅛	31⅛
U	18⅛	25⅝	26⅝	R2	17¾	19¾	20¾
V	4	7⅝	7⅝	S2	19	25	25

V-Bucket Conveyors—Using No. 180 S. T. R. Chain



Installation View of Jeffrey V-Bucket Conveyor using No. 180 Steel Thimble Roller Chain.

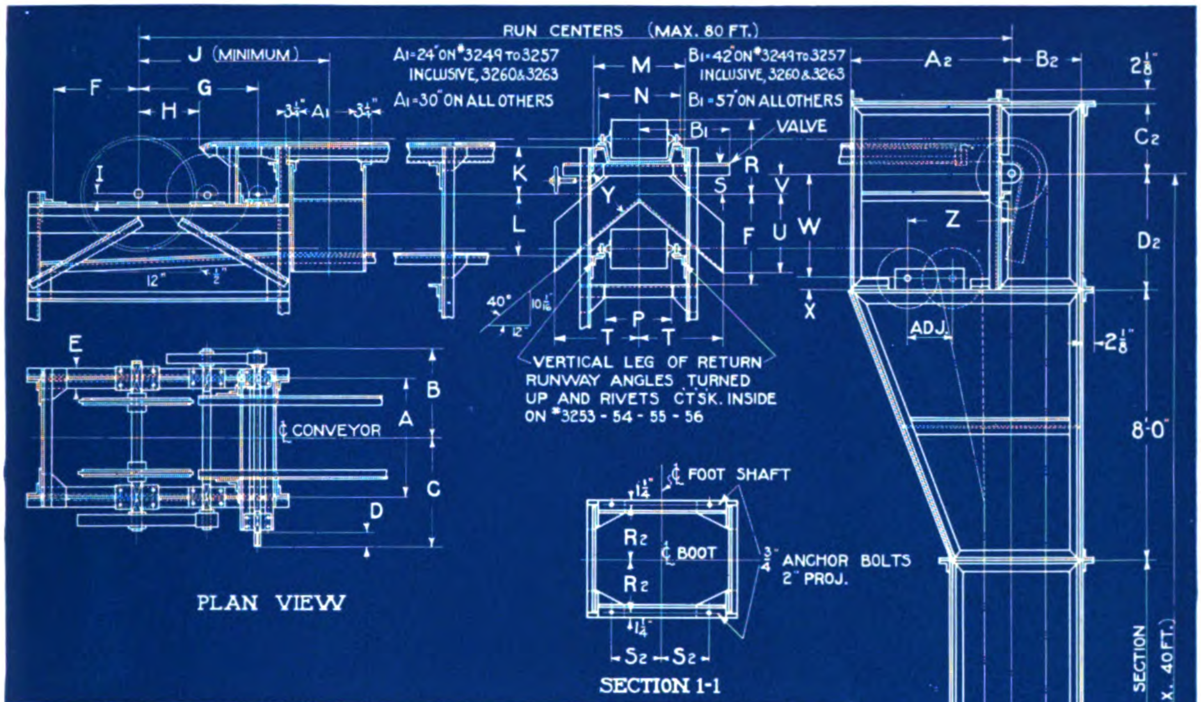
Specifications

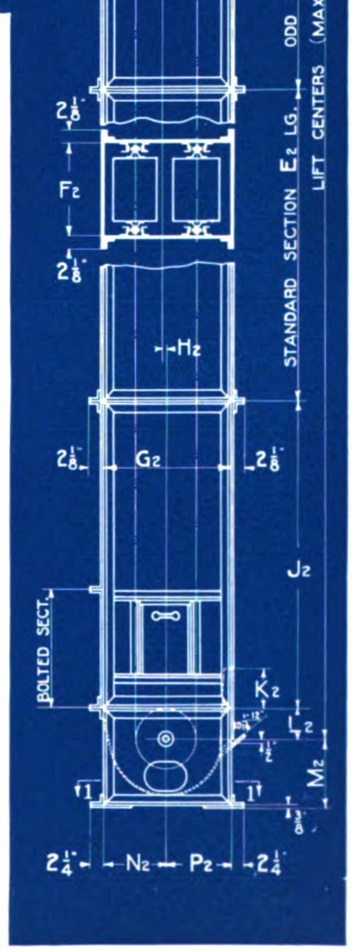
MATERIAL: Coal or similar material weighing approximately 50 lbs. per cu. ft.
SPEED: 100 Feet per minute. MAX. CENTERS: 40 ft. vertical, 80 ft. horizontal.

Number of Elevator	3266	3267
Size of Material—Inches		
Uniform or Average of unsized material	5	6
Maximum size not to exceed 10% of whole	10	12
Capacity—Tons per Hour	56	92
Chain		
Number	180 S T R	180 S T R
Attachments	Washer	Washer
Pitch—Inches	12	12
Working Strength—Lbs.	6500	6500
Buckets—Inches		
Length	26	30
Width	20	24
Depth	10	12
Gauge	3/16	1/4
Spacing	36	36
Headshaft—Inches		
Diameter of Shaft	3 15/16	4 15/16
Revolutions per minute	8.3	7.15
Diameter of Sprocket	46 1/2	54 1/2
Diameter of Gear	48.47	55.87 C S
Pitch of Gear	1 3/4	1 1/2
Face of Gear	5 1/2	4 1/2
1st Countershaft—Inches		
Diameter of Pinion	7.86	8.92 C S
Face of Pinion	6	4 3/4

Number of Elevator	3266	3267
1st Countershaft–In.–Cont'd		
Diameter of Shaft	2 15/16	3 15/16
Revolutions per minute	52	46
Diameter of Gear	32.00	35.82
Pitch of Gear	1 1/2	1 1/2
Face of Gear	4	4
2nd Countershaft—Inches		
Diameter of Pinion	7.22	7.22
Face of Pinion	4 1/2	4 1/2
Diameter of Shaft	2 7/16	2 15/16
Revolutions per minute	230	230
H. P. Required—Max. Ctrs.	11.5	17.5
Corner Shafts—Inches		
Diameter Shaft—upper corner	2 15/16	3 7/16
Diameter Sprocket—upper corner	31 3/8	35
Diameter Shaft—lower corner	2 7/16	2 15/16
Diameter Sprocket—lower corner	31 3/8	35
Foot Shaft—Inches		
Diameter of Shaft	2 7/16	2 15/16
Diameter of Sprocket	31 3/8	35
Approx. Shipping Wgt.—Lbs.		
Chain and Bucket per Ft. Ctrs.	106	140
Machinery Terminals	4835	6760
Casing Terminals	5775	6460
Casing per Foot	153	180
Trough per Foot	41	46

V-Bucket Conveyors—Using No. 180 S. T. R. Chain





General Dimensions

Dimensions	ELEVATOR No. 3266	ELEVATOR No. 3267	Dimensions	ELEVATOR No. 3266	ELEVATOR No. 3267
A	49¼	57¾	W	46⅜	52¼
B	34⅜	41⅛	X	3⅛	4
C	45	53	Y	18½	20
D	6	8	Z	45⅞	53¼
E	8¼	10¼	A2	73⅞	86¼
F	38¾	43½	B2	31⅛	36¾
G	47¾	54	C2	28½	31¾
H	22	26	D2	49½	56¼
I	4⅝	5⅝	E2	10′-0″	8′-0″
J	75	84	F2	37¾	43¾
K	19⅝	24	G2	60	70
L	28	30¾	H2	0	0
M	37½	41½	J2	9′-4″	7′-8″
N	35½	39½	K2	9½	11½
P	30	34	L2	18½	19¾
R	32⅜	38¾	M2	29½	32¼
S	10¼	12½	N2	29	33⅜
T	30	35	P2	31⅛	36¾
U	26⅝	28½	R2	20¾	23¾
V	7⅝	10	S2	25	30

V-Bucket Conveyors—Using No. 182½ S. T. R. Chain

Installation of Jeffrey V-Bucket Conveyor using No. 182½ Steel Thimble Roller Chain.

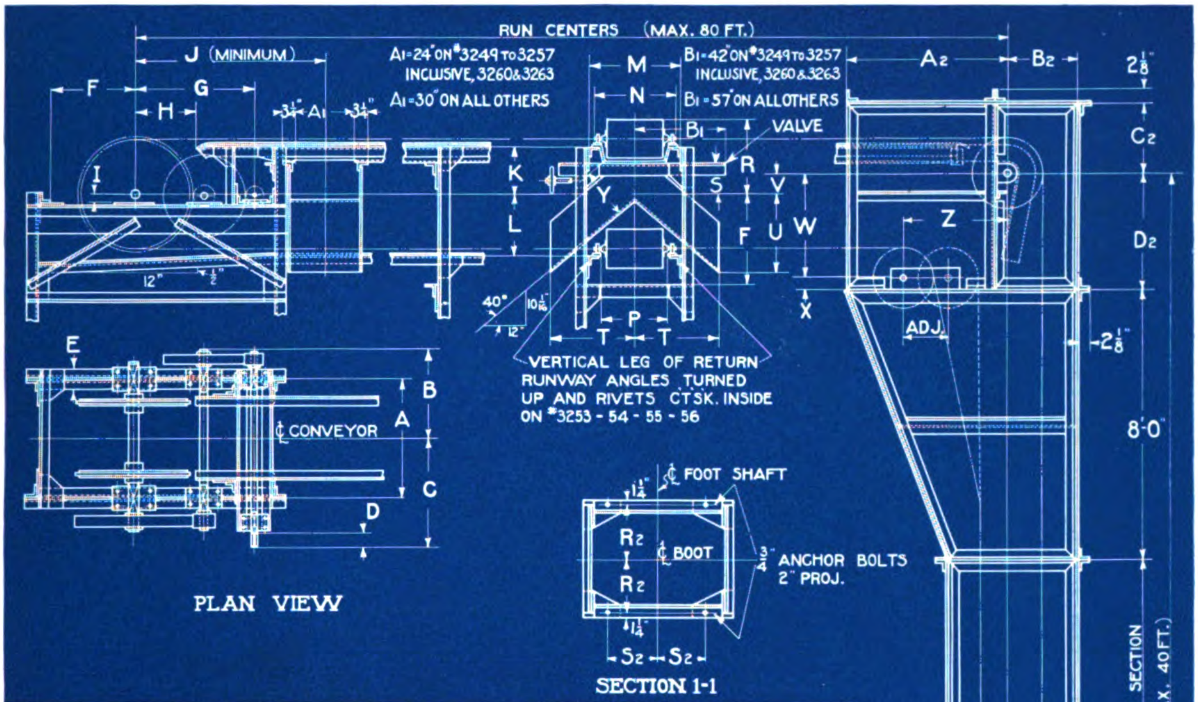
Specifications

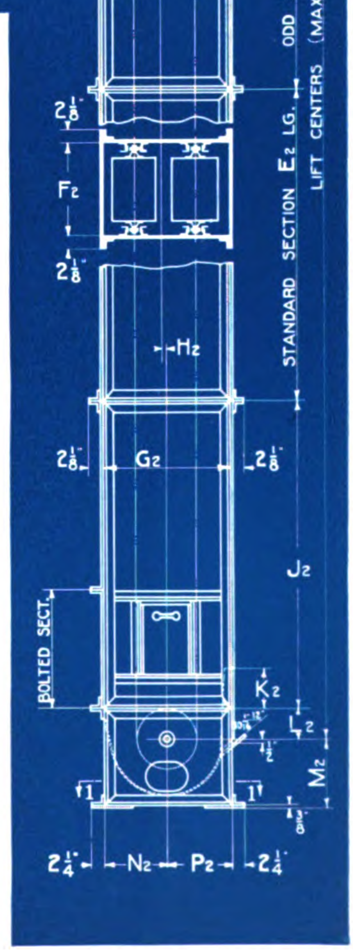
MATERIAL: Coal or similar material weighing approximately 50 lbs. per cu. ft.
SPEED: 100 Feet per minute. MAX. CENTERS: 40 ft. vertical, 80 ft. horizontal.

Number of Elevator	3268
Size of Material—Inches	
Uniform or Average of unsized Material	6
Maximum size not to exceed 10% of whole	12
Capacity—Tons per Hour	92
Chain	
Number	182½ S T R
Attachments	Washer
Pitch—Inches	18
Working Strength—Lbs.	9700
Buckets—Inches	
Length	30
Width	24
Depth	12
Gauge	¼
Spacing	36
Headshaft—Inches	
Diameter of Shaft	4 15/16
Revolutions per Minute	7.40
Diameter of Sprocket	52¾
Diameter of Gear	55.87 C S
Pitch of Gear	1½
Face of Gear	4½
1st Countershaft—Inches	
Diameter of Pinion	8.92 C S
Face of Pinion	4¾

Number of Elevator	3268
1st Countershaft—Inches—Continued	
Diameter of Shaft	3 15/16
Revolutions per minute	48
Diameter of Gear	35.82
Pitch of Gear	1½
Face of Gear	4
2nd Countershaft—Inches	
Diameter of Pinion	7.22
Face of Pinion	4½
Diameter of Shaft	2 15/16
Revolutions per Minute	240
H. P. Required—Max. Ctrs.	18.0
Corner Shafts—Inches	
Diameter Shaft—upper corner	3 7/16
Diameter Sprocket—upper corner	41½
Diameter Shaft—lower corner	2 15/16
Diameter Sprocket—lower corner	36
Foot Shaft—Inches	
Diameter of Shaft	2 15/16
Diameter of Sprocket	36
Approx. Shipping Weight—Lbs.	
Chain and Buckets per Ft. Ctrs.	156
Machinery Terminals	7950
Casing Terminals	6510
Casing per Foot	180
Trough per Foot	46

V-Bucket Conveyors—Using No. 182½ S. T. R. Chain.

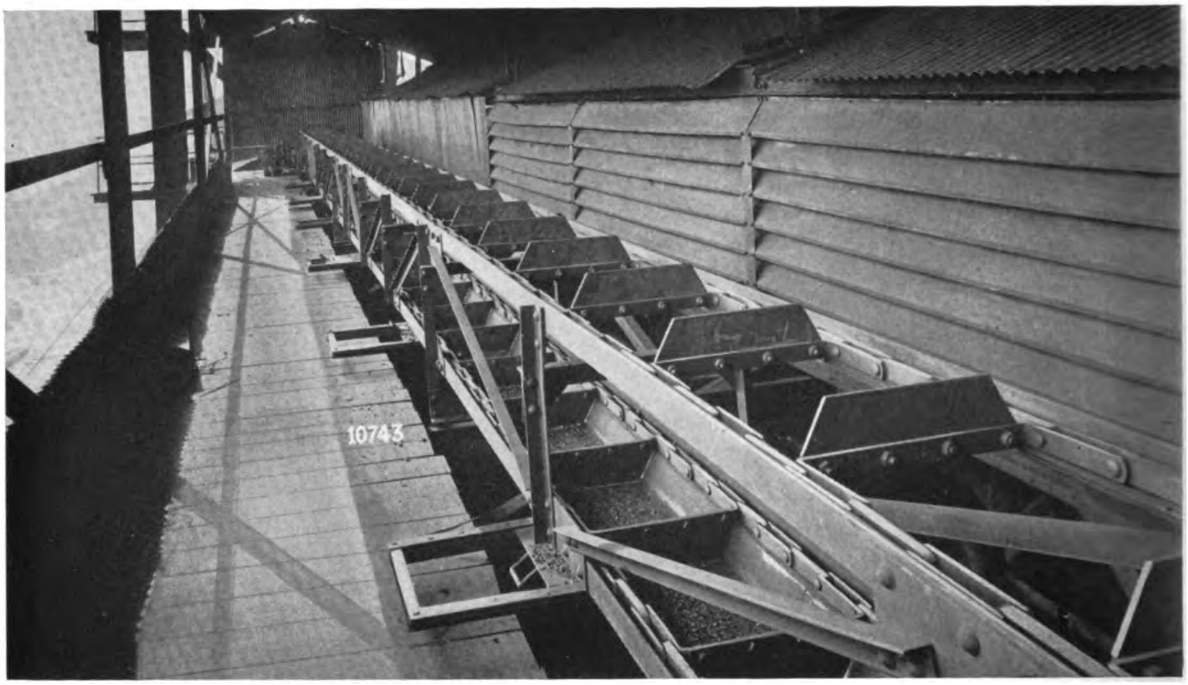




General Dimensions

Dimensions	ELEVATOR No. 3268	Dimensions	ELEVATOR No. 3268
A	58¼	W	48¼
B	41⅜	X	4
C	53	Y	20
D	8	Z	51¼
E	10¼	A2	84¼
F	43¼	B2	39¾
G	54	C2	33¾
H	26	D2	52¼
I	5⅝	E2	8′-0″
J	84	F2	43¾
K	21¾	G2	70
L	31	H2	3
M	42	J2	8′-0″
N	40½	K2	11½
P	34½	L2	19¾
R	37	M2	32¼
S	10¾	N2	33⅜
T	35	P2	36¾
U	30¼	R2	23¾
V	6	S2	30

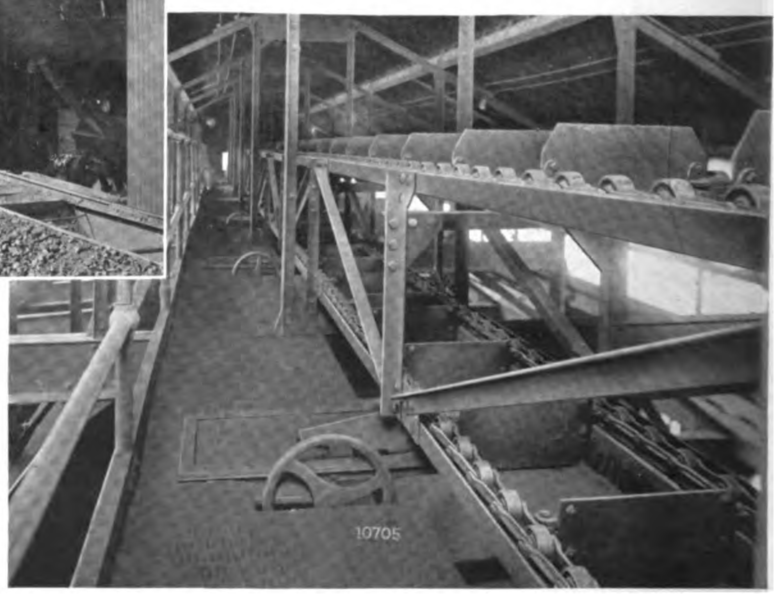
Scraper Conveyors



Jeffrey Scraper Conveyor distributing coal over Bunkers in a large Power Plant

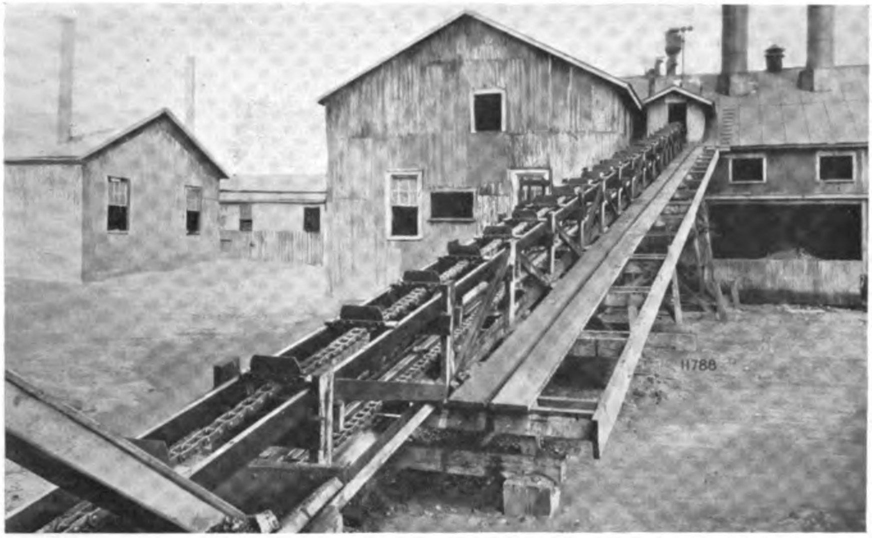
THE Scraper Conveyor is one of the simplest and most economical means of conveying moderate capacities of many loose materials, and therefore readily adapts itself to the handling of coal in the Power House.

For more detailed information on Jeffrey Scraper Conveyors, see pages 269 to 332.



This illustration is the exterior of Power Plant above and shows the Jeffrey Bucket Elevator which elevates material from track hopper to Scraper Conveyor, operating over bunkers.
The right hand illustration is that of another installation of a Jeffrey Standard Scraper Conveyor, operating in a Boiler House. The Scraper Conveyor can be loaded at any point and discharged at numerous places by means of valves placed in the carrying trough.

Scraper Conveyors



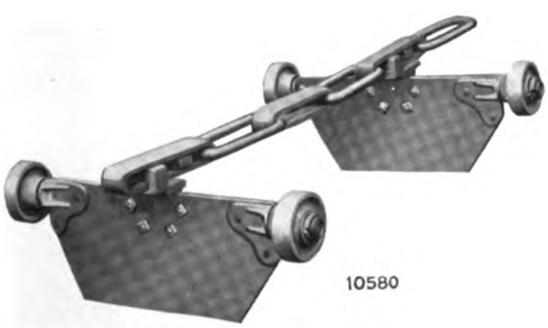
Where local conditions require an inclined conveyor, the scraper has proved to be a highly efficient method with a comparatively small amount of machinery, for handling loose materials at fairly steep angles.

The opposite view shows a Jeffrey Inclined Scraper Conveyor with single strand of chain, which carries the coal from hopper and distributes over bunkers.

WHEN small capacities are to be handled, the scrapers are mounted upon a single strand of chain. Two strands of chain are used where very large pieces or large capacities are to be handled, usually for pieces larger than 3 inch cubes or capacities in excess of 50 tons per hour.

For more detailed information on Jeffrey Standard Scraper Conveyors, ***see pages 269 to 332.***

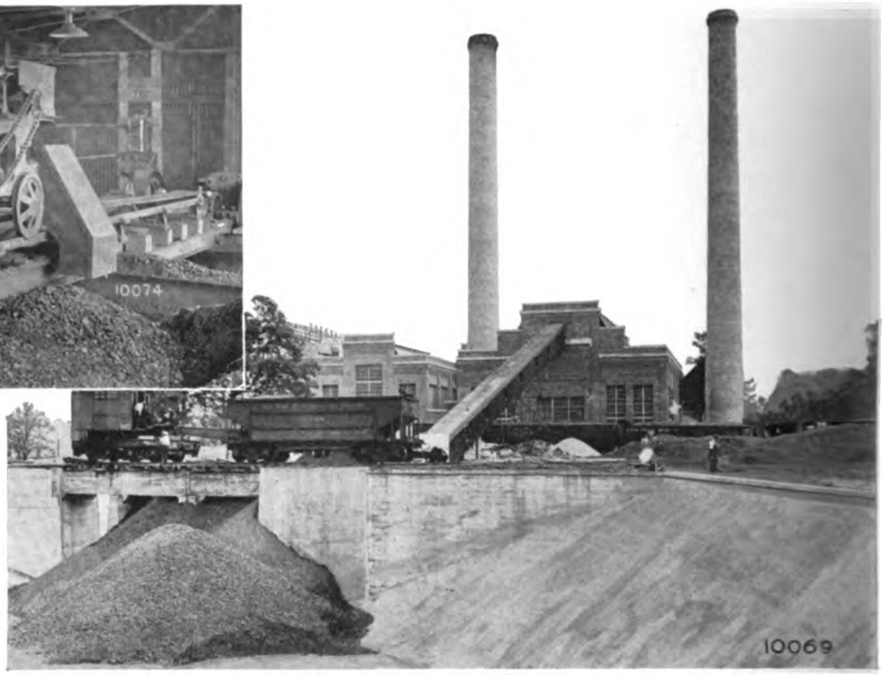
Another Jeffrey Scraper Conveyor with single strand of chain handling coal in a Power House.



Jeffrey Standard Scraper Conveyor using a single strand of forged steel chain with rollers mounted on the flights.

Another one of the Jeffrey Standards using a double strand of Malleable Roller Chain.

Belt Conveyors



Self-Propelled Reversing Belt Tripper, which automatically distributes as it discharges on each side of belt.

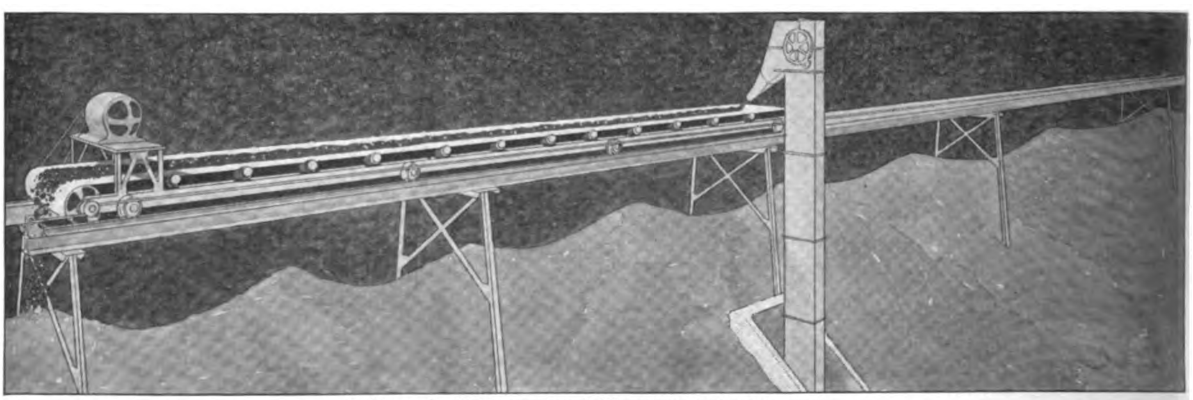
Here a Jeffrey Belt Conveyor, partly inclined and partly horizontal handles crushed coal from under track hopper to bunkers in Boiler House.

THE Belt Conveyor has one of its most economical applications in the distribution of coal into long bins or over long storage spaces. This is especially true where local conditions permit one belt to carry up a long incline and into bins.

For complete information on Jeffrey Belt Conveyors, see pages 223 to 268.

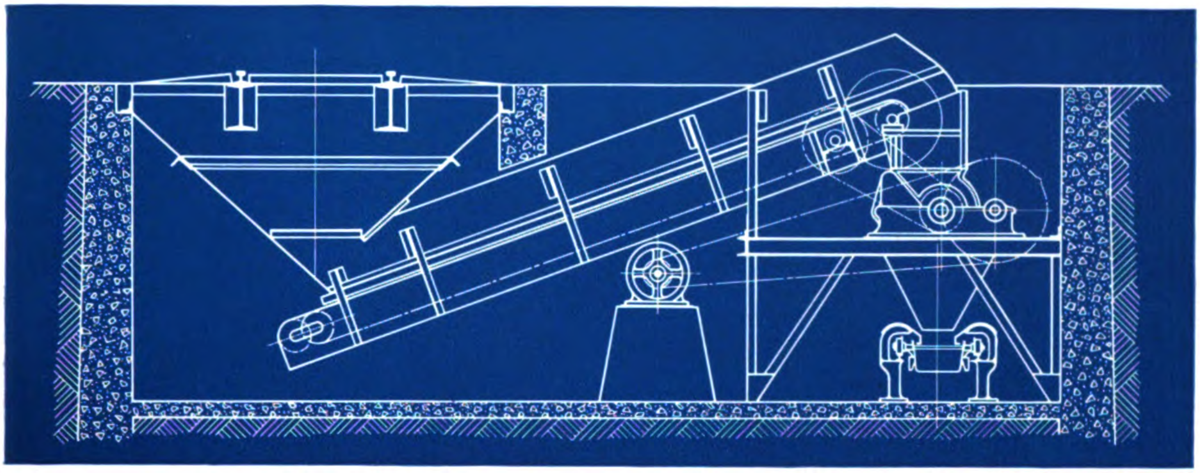
The Shuttle Conveyor, as its name implies, shuttles or moves along a track over a bin or storage pile as illustrated below. It is used with a cross conveyor or an elevator operating at right angles to the length of the storage space and is so located as to permit the discharge of material onto the Shuttle Conveyor at about the center of the storage. Thus where local conditions permit, the Shuttle Belt is a minimum of machinery for filling a large storage space.

Cross section of Belt Conveyor showing the Jeffrey Standard 5-pulley troughing idler and side hanging return idler. Note that face of troughing pulleys conforms to natural troughing effect of belt for maximum carrying capacity.



Jeffrey Self-Contained Shuttle Belt Conveyor

Steel Apron Conveyors

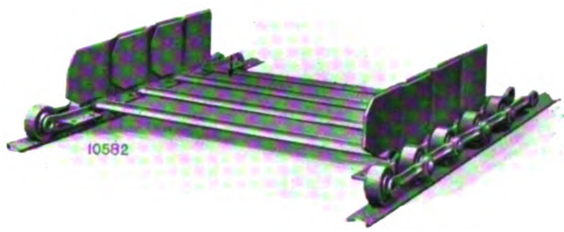


A typical layout of Jeffrey Standard Steel Apron Feeder Conveyor. The Conveyor receives coal through track-hopper and discharges it into Crusher. This arrangement is very simple and eliminates deep excavations. Other arrangements illustrated on pages 40 and 41.

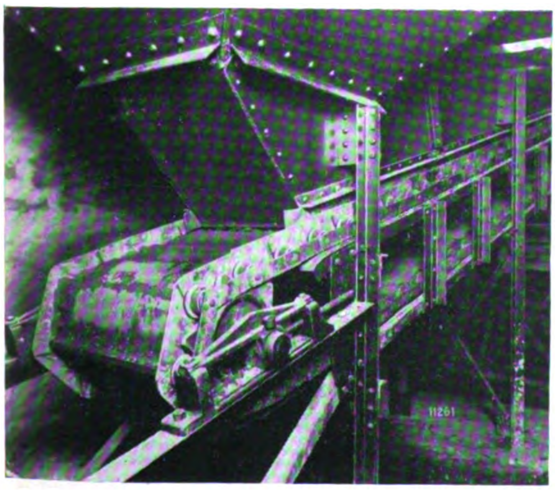
YEARS of hard service have proven Jeffrey Standard Steel Apron Conveyors to be particularly adapted to Boiler House service, as feeder to Crusher or intermediate conveyor between crusher and main conveyor.

The steel flights are beaded on the edge so as to overlap, forming a continuous moving surface. They are mounted upon two strands of roller chain, and are capable of carrying up quite steep inclines as well as along the horizontal.

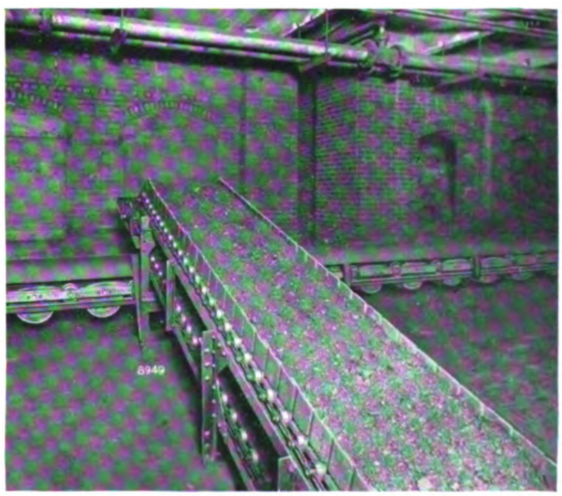
For Detailed Information on Jeffrey Standard Steel Apron Conveyors, see pages 161 to 194.



Sectional View of Steel Apron Conveyor, with Jeffrey popular No. 126-C Malleable Roller Chain. Jeffrey Steel Apron Conveyors are made in various sizes to suit capacity requirements and special conditions.

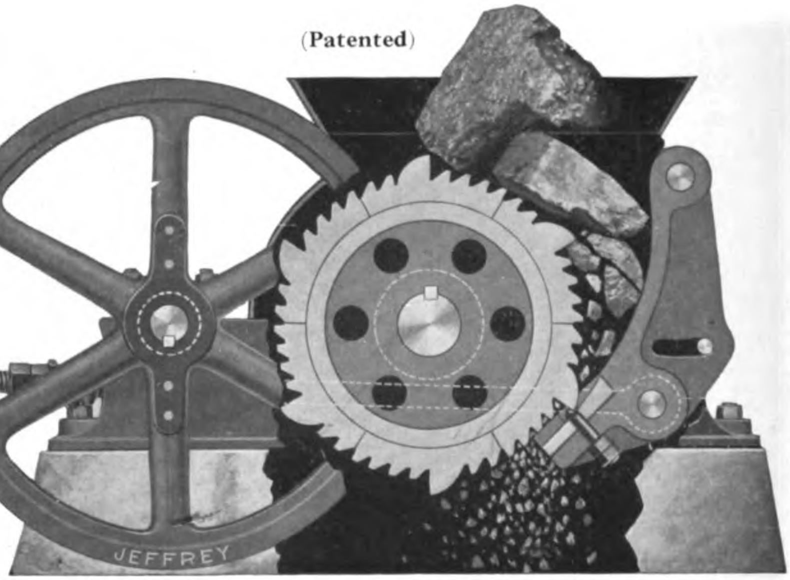


Receiving end of a Jeffrey Standard Steel Apron Conveyor with steel chains, operating from under track hopper, carrying coal to Crusher, as outlined above.



Jeffrey Standard Steel Apron Conveyor serving as an intermediate carrier between Crusher and a Pivoted Bucket Conveyor.

Single Roll Crusher



Sectional View of Jeffrey Single Roll Crusher, adjustable to give the most efficient sizing of coal for your stokers.

IN Power House service, the Jeffrey Single Roll Crusher insures a constant supply of stoker or small coal where stoker sizes cannot be secured direct from the mines and only lump or unsized coal is available. This enables the Power Plant to crush its own coal at a moderate cost to desired sizes for use in mechanical stokers. Hundreds of Jeffrey Single Roll Crushers are in daily operation in Power Houses, Coal Mines and many other industries.

Distinguishing features of the Jeffrey Single Roll Crusher.

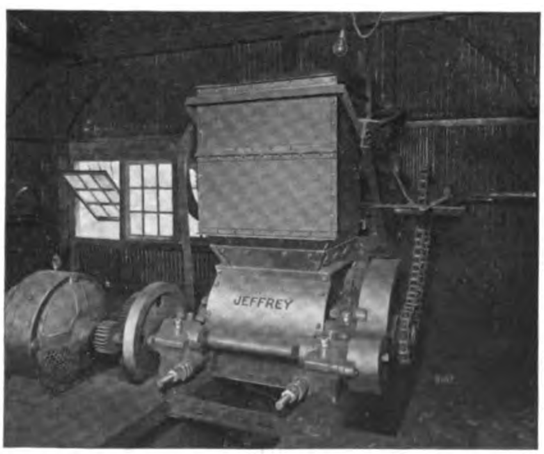
1—Reduces coal to stoker size in a single operation.

2—Rugged design and finished construction throughout—cut tooth steel gears—renewable segments on crushing roll—renewable wearing shoe on breaker plate—and renewable bushings in shaft bearings.

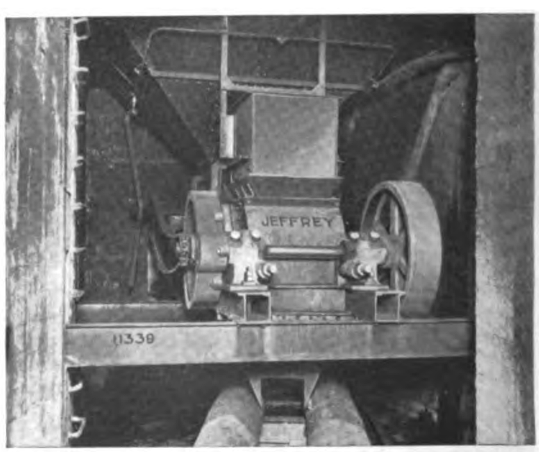
3—Equipped with a safety device which protects the machine against ordinary shocks and accidents.

4—It is easily adjusted, and has wide range for size and capacity.

5—Consumes but little power—costs little to install and occupies little space.



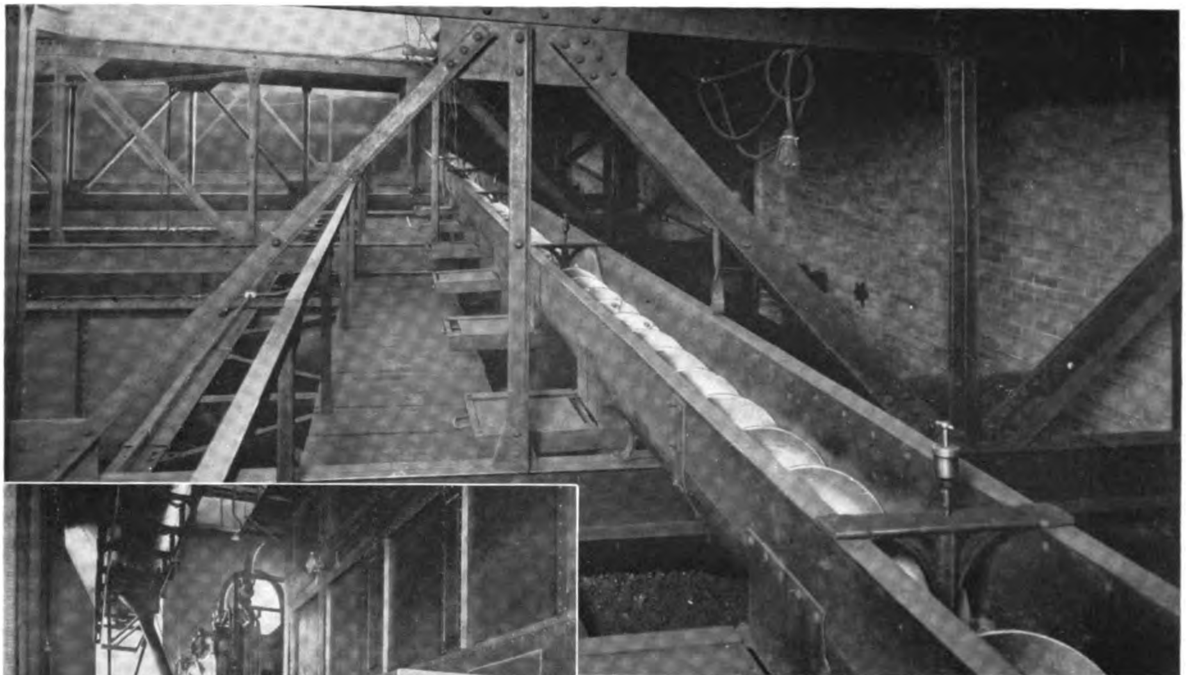
Jeffrey Single Roll Crusher direct connected to electric motor. May also be driven by belt or steam engine.

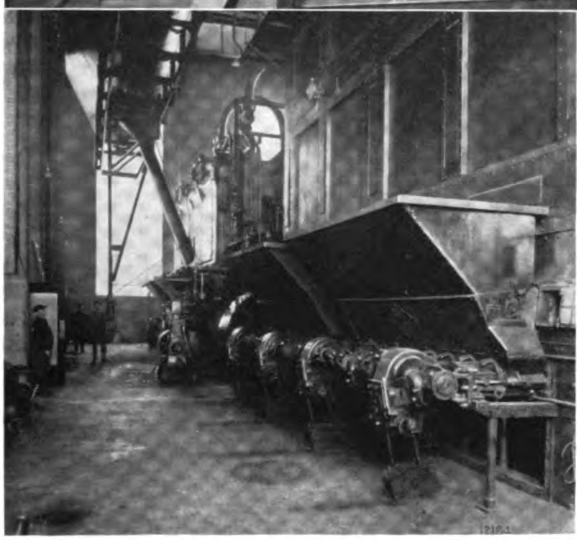


Another installation of the Jeffrey Single Roll Crusher located under track hopper in basement of a Power Plant

For Detailed Information on Jeffrey Single Roll Crusher, see pages 565 to 582.

Spiral Conveyor





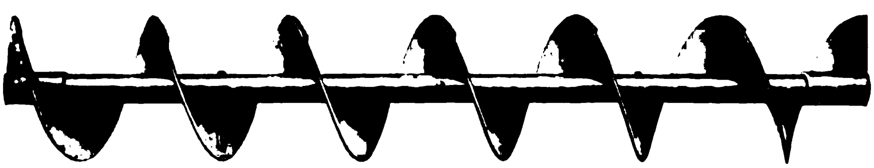
The above view shows a Jeffrey Spiral Conveyor distributing coal over bunkers in a modern power plant. This is ordinarily the first step in economy beyond simply an elevator with gravity spouts.

At the left is shown the Boiler Room beneath the bunkers illustrated above, with a Jeffrey Weigh Larry delivering coal to stokers.

THE Spiral Conveyor is for those inaccessible places which will not permit of a return strand of conveyor such as immediately under floors, directly under roofs or through shallow roof trusses. The Spiral Conveyor has no return of any kind and thus meets the requirements of many power plants of such local conditions.

For Detailed Information on Jeffrey Spiral Conveyors, see pages 349 to 362.

The receiving end of the Spiral Conveyor pictured above, being fed by a Jeffrey Standard Bucket Elevator.



A Section of Jeffrey Steel Spiral Conveyor

Pan Conveyors

Jeffrey Cast Iron Pan Conveyor handling ashes in basement of boiler house. Ashes are drawn through Pit Doors into the Conveyor, which is built for hard, continuous service.

Round Bottom Steel Pan Conveyor installed for carrying coal from railroad to storage bin over ovens in a large Coke Plant.

THE Cast Iron Pan is a modified form of the overlapping steel pan or steel apron in which the design is such as to withstand shrinkage strains due to the handling of hot materials. It has but one discharge point.

The Round Bottom Steel Pan is capable of carrying a much greater capacity for a given width and is especially adapted to the handling upon very steep inclines of materials which have a tendency to readily flow.

The Steel Overlapping Drop Pan Conveyor as shown below can be installed to deliver at various fixed points into Bins or Chutes.

For Detailed Information on Jeffrey Pan Conveyors, see pages 343 to 348.

Overlapping Pan Conveyor handling coal from beneath a storage bin.

Overlapping Drop Pan Conveyor delivering coal to various fixed points.

Drag Chain Ashes Conveyors

Jeffrey Reliance Drag Chain Ashes Conveyor removing Ashes from in front of boilers. It operates at a very slow speed, with a small amount of power and thus easily handles the ashes of plants having comparatively few boilers.

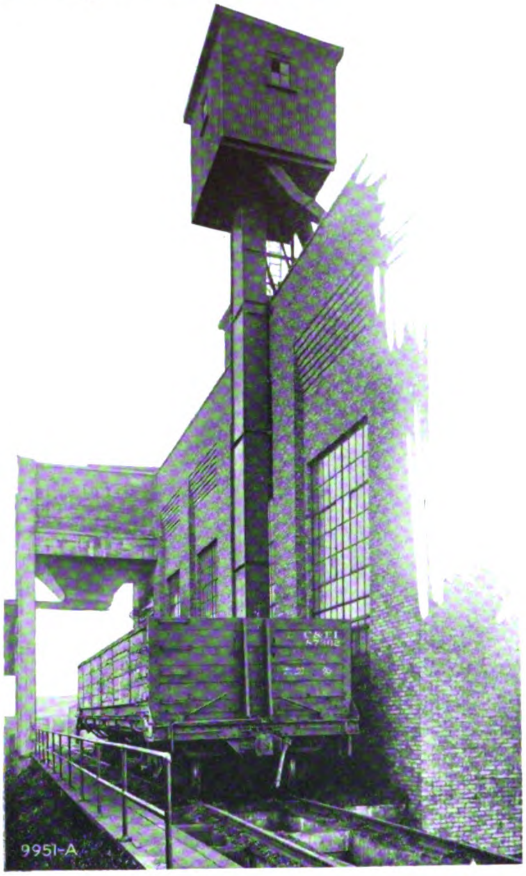
MANY power plant engineers prefer to have separate conveyors for handling Ashes and Coal, as a shortage of coal supply or delayed delivery, under certain operating conditions, often necessitates the handling of coal at a time when the ash hoppers under the stokers require emptying.

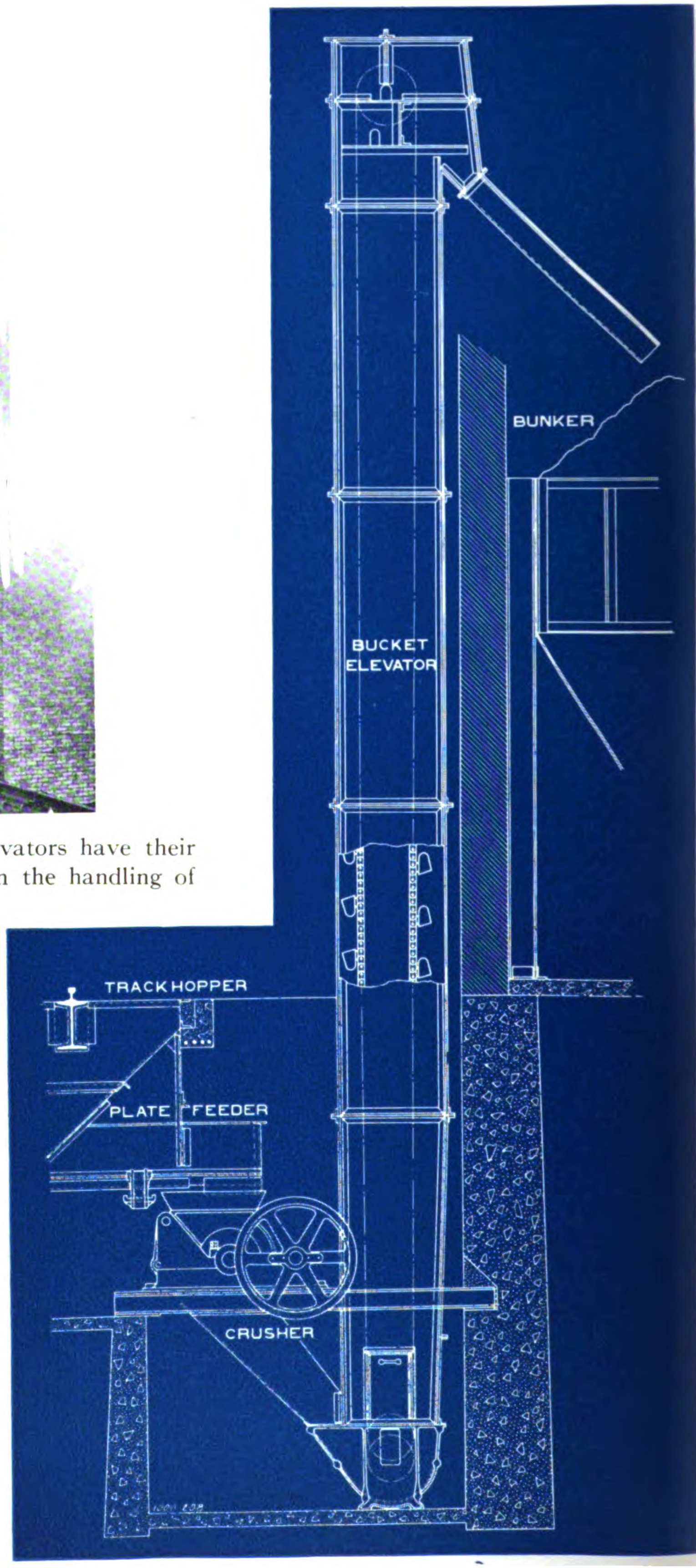
Illustration at right shows Jeffrey Reliance Drag Chain Conveyor delivering ashes from Boiler Room to railroad cars.

Jeffrey Reliance Drag Chain

For Detailed Information on Jeffrey Reliance Drag Chain Conveyor, see pages 329 to 331.

Bucket Elevators





JEFFREY Standard Bucket Elevators have their application to Boiler Houses in the handling of both Coal and Ashes.

Where Coal is to be delivered but a short distance from an elevator to storage space the elevator often can be extended high enough to spout the material to several storage points or boiler hoppers. Thus a Jeffrey Elevator in connection with one or more gravity spouts becomes a maximum of conveying economy.

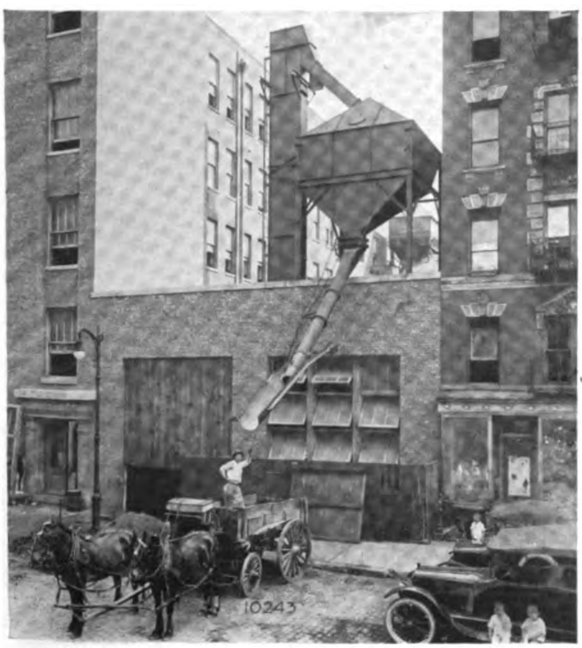
The drawing at the right shows a typical installation of Jeffrey Standard Bucket Elevator, inclosed in a steel casing. The coal is discharged through track-hopper and fed to Jeffrey Single Roll Crusher by plate feeder, thence to Elevator and Storage Bunkers.

For Detailed Information on Jeffrey Bucket Elevators, see pages 363 to 398.

Bucket Elevators

JEFFREY Bucket Elevators are well adapted to the handling of ashes. They can be used to advantage in elevating through the short distance from basement to above ground level or between floors in buildings, as well as to great heights as shown in illustrations. The smaller sizes of elevators are such that they can readily be fed by shoveling into the boot.

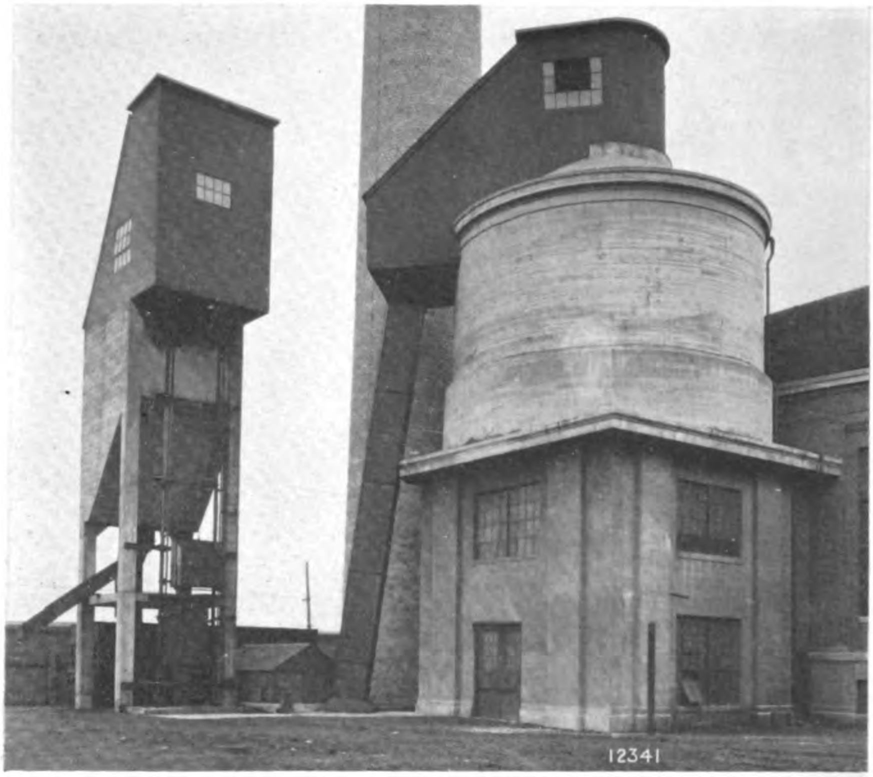
Illustrations on this page show several typical installations of Jeffrey Standard Bucket Elevators handling Ashes in Boiler House Service.



Jeffrey Standard Bucket Elevators are made in various sizes to suit capacity requirements, and for the handling of a great variety of materials. They are used separately or in connection with various types of conveyors as shown in this catalog.

For Detailed Information on Jeffrey Standard Bucket Elevators, see pages 363 to 398.

Skip Hoist for Handling Ashes

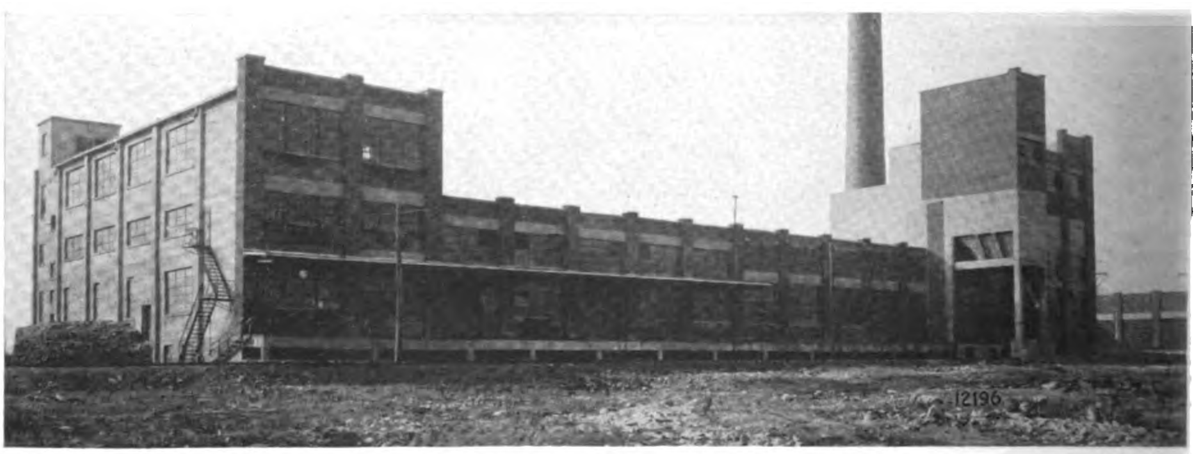


THE design of the Jeffrey Skip Hoist especially adapts it to the handling of ashes and similar abrasive materials, as any material which may be handled does not come in contact with the operating mechanism.

The Skip Hoist is unquestionably the most economical means of handling ashes in either small or large boiler houses. It is simple in construction; of low initial cost; and inexpensive to operate as it is in service only when actually carrying a load.

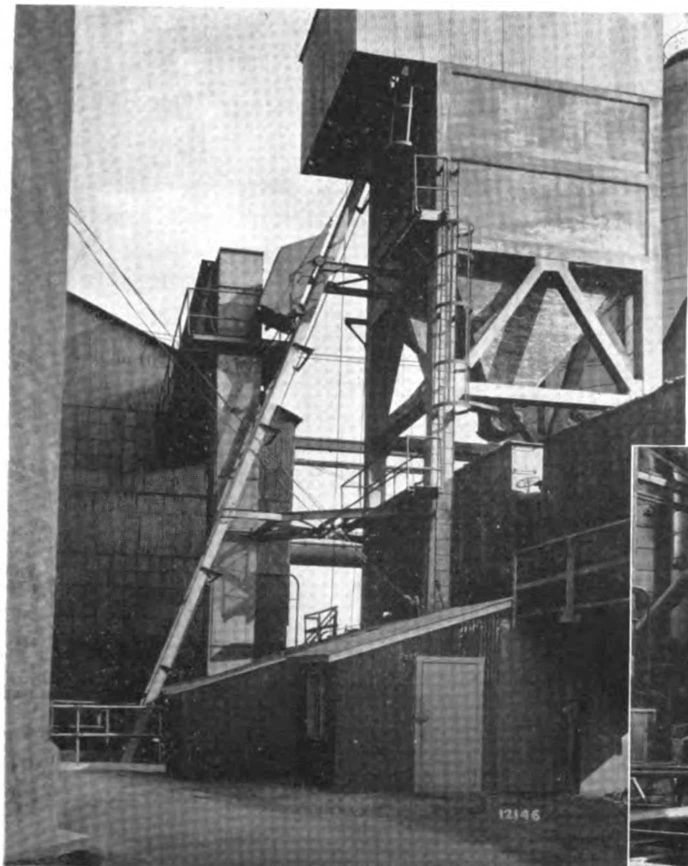
The wide-open-mouth of the Skip permits the carrying of large clinkers without previous crushing.

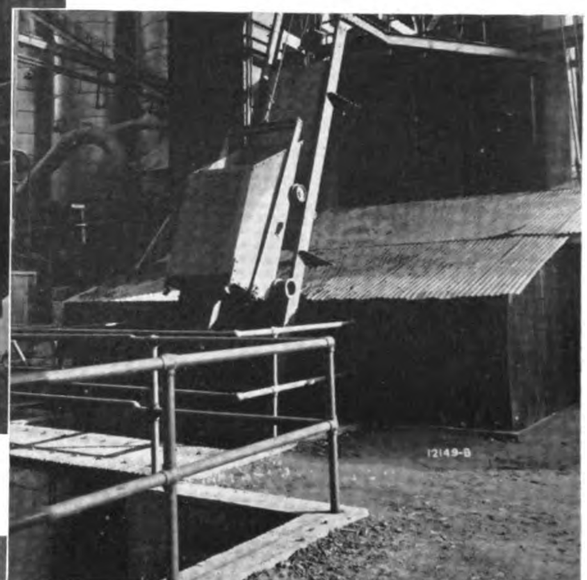
The Jeffrey Skip Hoist is made in two Standard sizes using a 27 cubic foot and 40 cubic foot bucket, see pages 80 and 81.

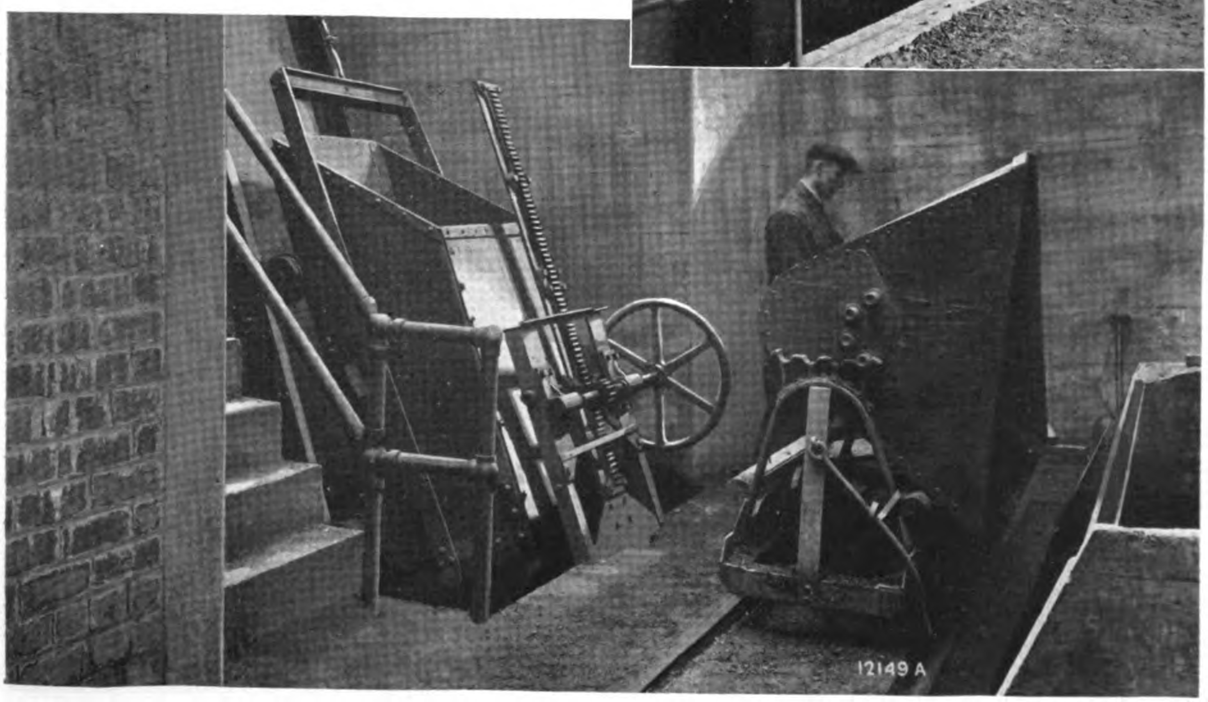


Skip Hoist for Handling Ashes

Where conditions will not permit of a vertical skip hoist the runways may be inclined as in the accompanying views. Guard rails, as shown in upper illustration on opposite page, are omitted when the angle of runway exceeds 10 degrees from vertical.







Skip Hoist for Handling Ashes

Head Frame

THE Head Frame of the Jeffrey Standard Skip Hoist is designed to serve any type of Storage Bin, and can be joined to either a vertical or inclined runway.

The operation of the Skip Hoist is automatic in every respect and therefore requires little attention. When the Skip Car reaches the dumping point it automatically opens the door of the storage bin and upon discharging its load, starts back, closing the door simultaneously, thus eliminating any spill and scattering of dust, or water entering the bin.

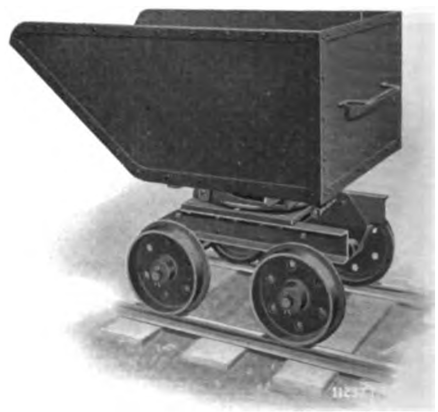
While it is not necessary to house in the head frame, it is so recommended, as it affords protection from the weather, and thereby increases its life.

The Foot End

The Skip car comes to rest in its lower position slightly below the floor or ground level and material can be discharged into it either by wheelbarrow or ash dump car. Where large capacities are to be handled, requiring almost continuous service of the Skip Hoist, an automatic feeder in connection with hopper can be installed to load car, which in turn will operate the Hoist.

The Ash Dump Car

The Ash Dump Car consists of a steel hopper, pivoted on a short wheel base truck which will operate upon not less than a 15 foot radius curve. The wheels are chilled iron and provided with roller bearings which insure a long life and easy operation. On account of the absence of doors or locks, this car can be dumped and returned to the loading point very quickly.



Ash Dump Car.

Jeffrey Skip Car

Skip Cars

Both sizes of Skip Cars are similarly designed, the sides of which are constructed with heavy steel plate, with bottom of greater thickness, all securely held with closely spaced hot pressed rivets. Cars are mounted on 8-inch diameter cast iron wheels and provided with bale of ample strength to withstand severe service. The bale has double channel cross beams at the top with connections for the operating steel rope.

Skip Hoist for Handling Ashes

Counterweight

AS in the case of the cars, the counterweights are alike, except in size so as to equal the weight of the car and half the full loading, thereby requiring a hoisting engine of minimum size by having to raise but half of the load in the car when going up, and lifting an equal amount of the counterweight load in coming down empty. These counterweights consist of steel forms which are filled with concrete by the purchaser. They are mounted upon cast iron carrying rollers which operate on the back of the runway channels.

Skip Car Counterweight

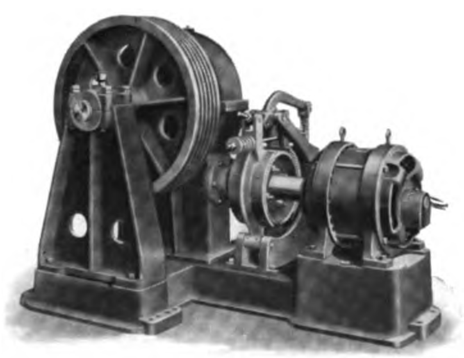
Control

The Hoisting Engine is of the worm and gear type and is electrically driven. The motor used being especially built to withstand the hard usage of elevator service, with the starting torque greatly exceeding the running torque. This allows the motor to start at full load on almost the same current that is required to run, thereby making it very economical in operation.

The worm and worm shaft are forged in one piece, accurately machined and equipped with ball thrust bearings. The worm wheel is composed of a cast iron center with a renewable bronze rim, the teeth being machine cut. They are inclosed within a cast iron dust tight casing and run in oil, insuring lubrication of the gears and thrust bearings. The worm wheel and drum are cast together on the drum shaft, thus doing away with all keys and set screws. The grooves in the drum are turned to properly fit the cable, insuring long wear.

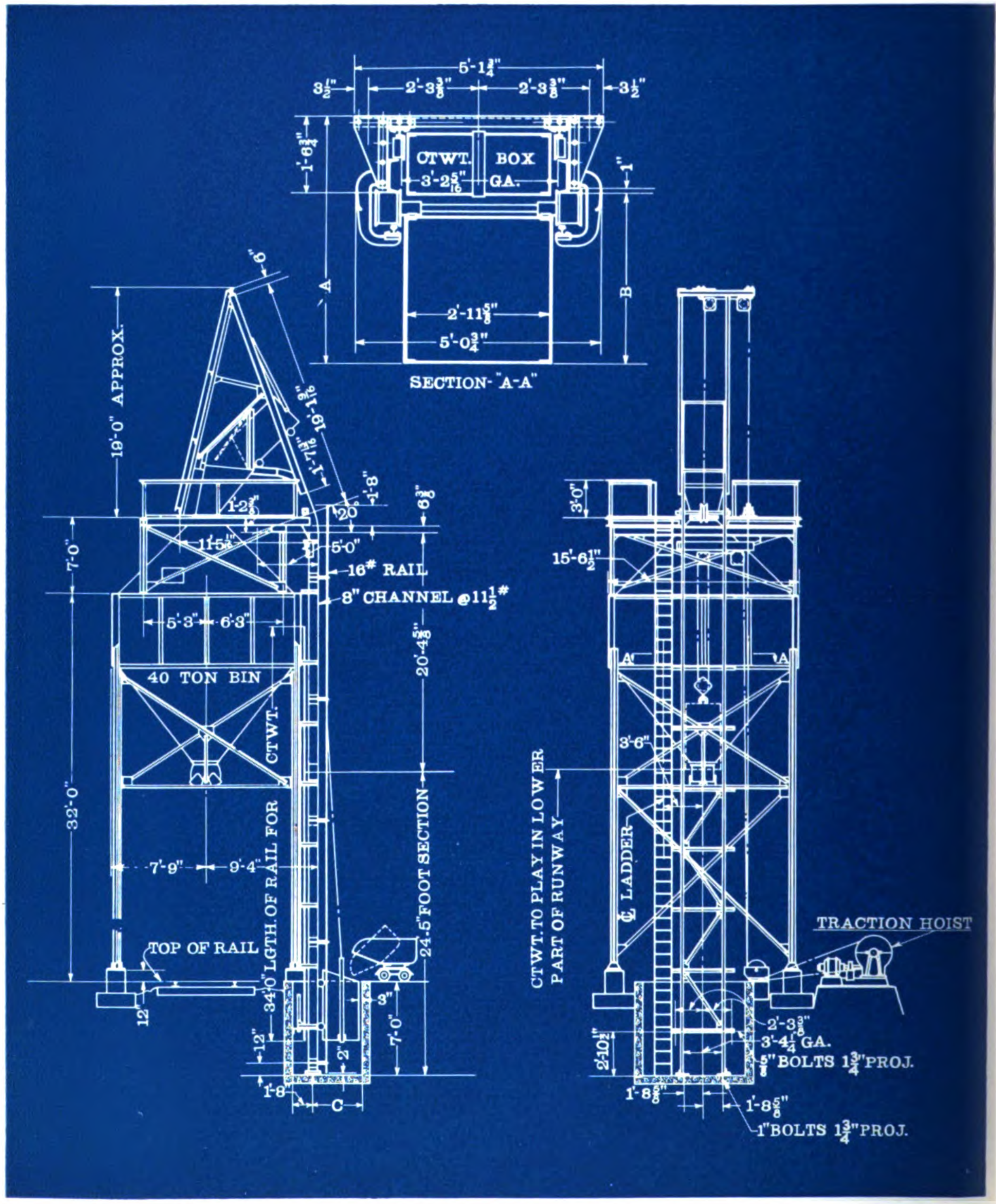
A self-adjusting brake is provided which applies pressure to the brake wheel at all points around its circumference, thus eliminating the jerking, jarring and chattering quite common to this service. The brake is held in the released position electrically while the engine is in operation and is applied automatically upon the breaking of the circuit. In this way there is positive assurance that the car cannot run back in case of accident to the power lines.

The Skip Hoist is automatic in operation—by pressing a button located in a convenient place at the bottom, the up-direction switches are closed electrically, starting the car which runs to the top. Passing over a hatch switch the car is brought to a stop in a dumping position. A time relay holds it in this position for a short interval of time to allow for the complete discharge of the load. The down-going switches are then automatically closed, starting the car down. When the car reaches the lower position, the counterweight passes onto a shoe, breaking the current by means of a hatch switch which brings the car to rest in the loading position.


Electric Traction Hoist

By this controlling device, much time is saved as the car is back in the loading position by the time the operator has returned with another load of material.

Skip Hoist for Handling Ashes

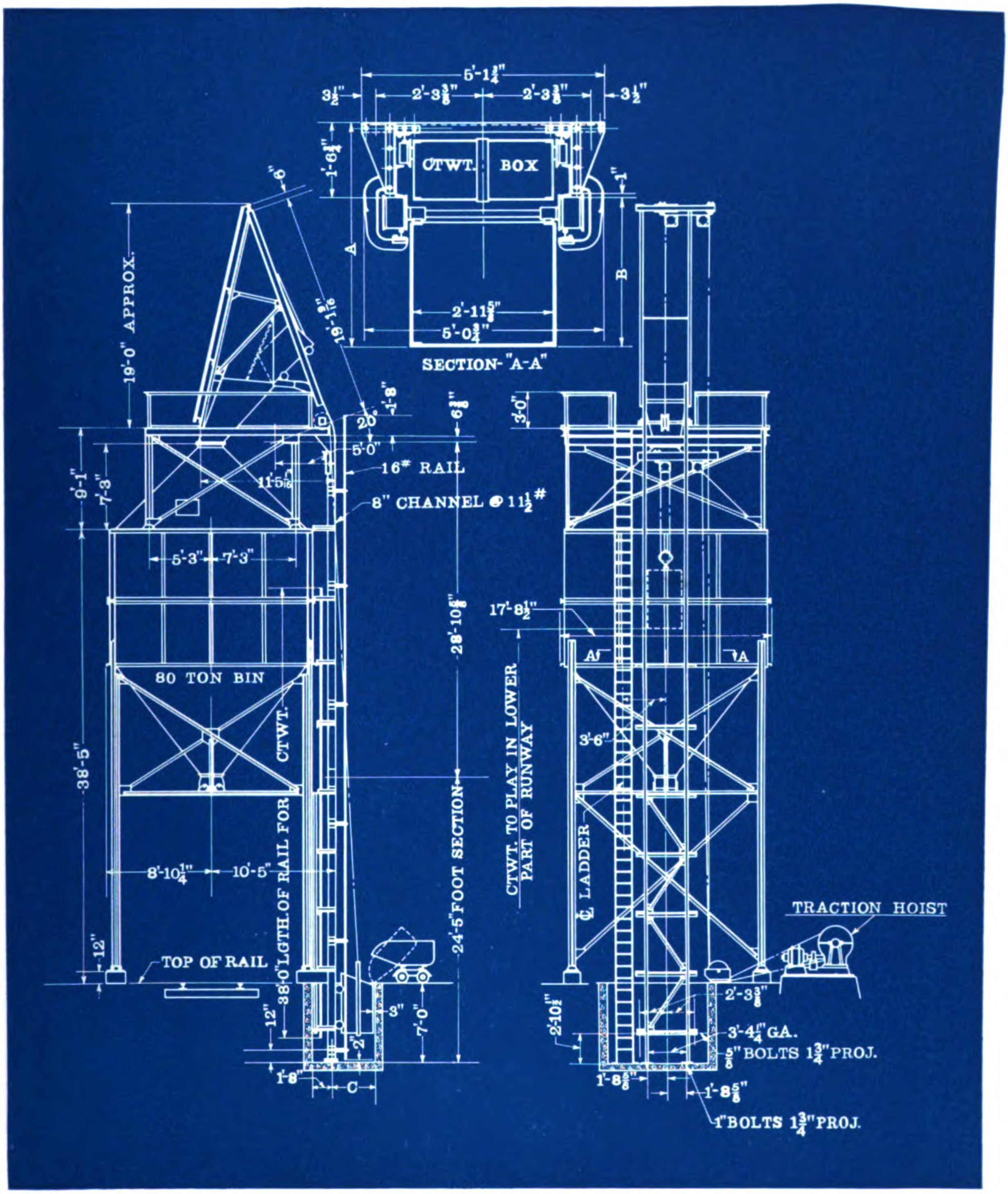


General Layout of Skip Hoist with 40 Ton Ash Bin

Capacity of Bucket	Electric Hoist			Approx. Speed in Feet per Min.	Dimensions		
	Number	Weight	Unbalanced Load		A	B	C
27 Cubic Feet	4	2000	1200	75	4'-8½"	3'-1¾"	3'-8¾"
40 Cubic Feet	5	3500	2400	75	5'-1⅛"	3'-6⅜"	4'-1⅜"

⅝" Crucible Steel Hoisting Rope, used on both sizes.

Skip Hoist for Handling Ashes

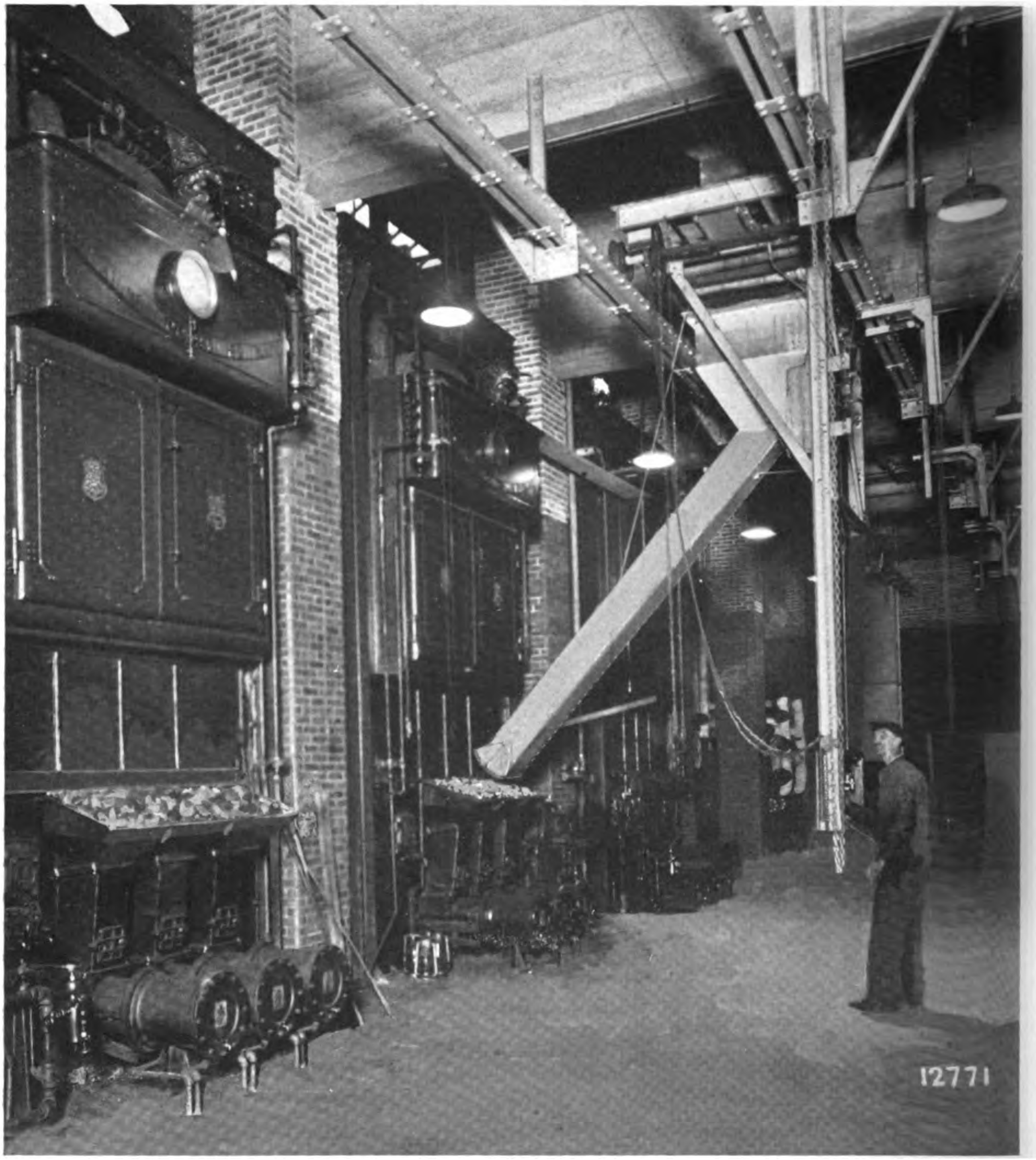


General Layout of Skip Hoist with 80 Ton Ash Bin

Capacity of Bucket	Electric Hoist			Approx. Speed in Feet per Min.	Dimensions		
	Number	Weight	Unbalanced Load		A	B	C
27 Cubic Feet	4	2000	1200	75	4'-8½"	3'-1¾"	3'-8¾"
40 Cubic Feet	5	3500	2400	75	5'-1⅛"	3'-6⅜"	4'-1⅜"

⅝" Crucible Steel Hoisting Rope, used on both sizes.

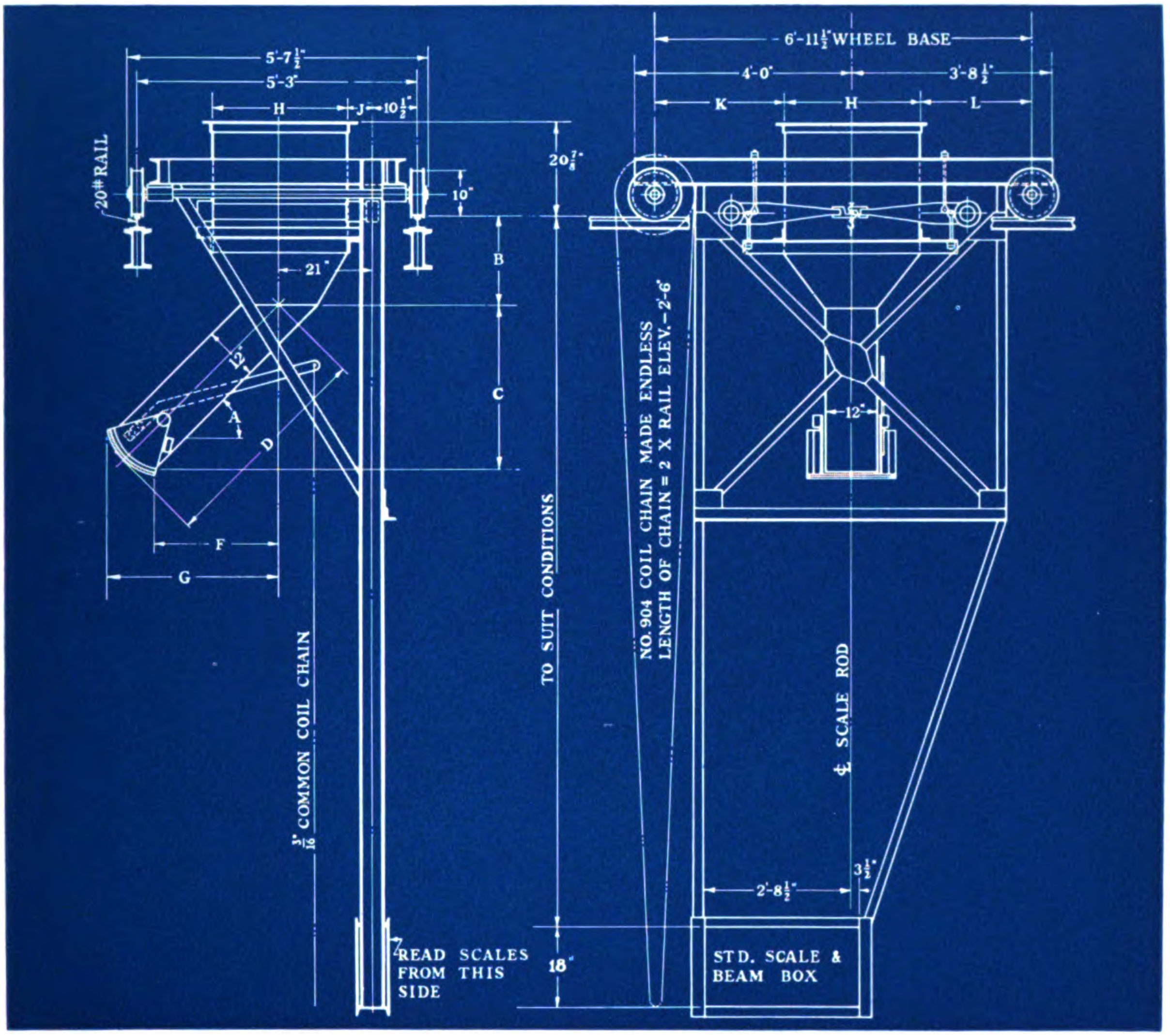
Weigh Larries



Jeffrey Hand Propelled Weigh Larry

THE Traveling Weigh Larry affords an economical and convenient method of distributing coal from bunkers to stoker magazines. With this outfit the boiler house attendant may accurately weigh and keep a record of all coal delivered to each one of the boilers. The type shown above is operated from floor by chain. The valve is also controlled in the same manner. See opposite page for general dimensions.

Weigh Larries



General Dimensions of Hand Propelled Weigh Larries

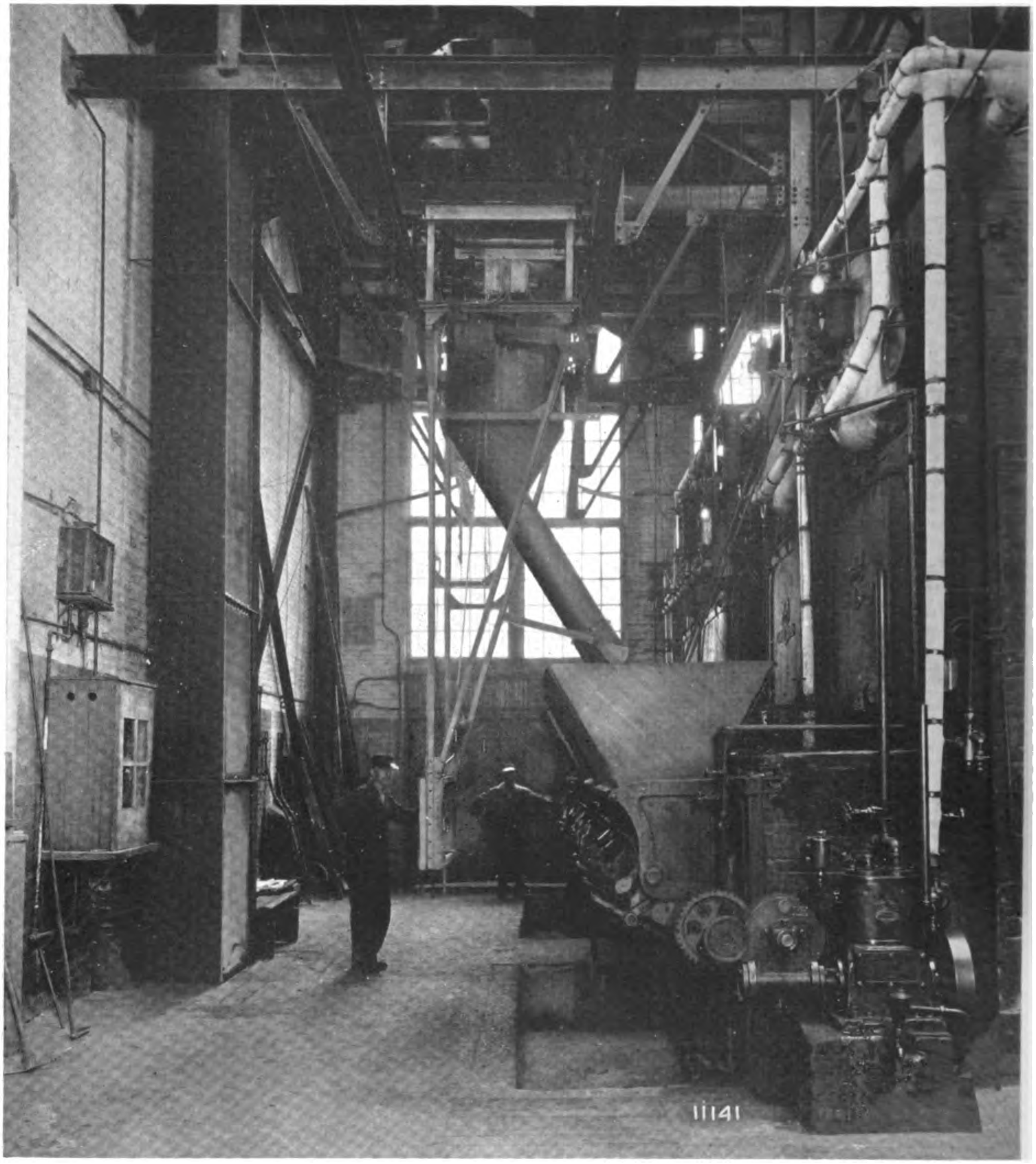
1000 LBS. CAPACITY

Angle of Chute A	B	C	D	F	G	H	J	K	L
60°	23 1/16"	7'- 0¾"	8'-0"	3'-6"	4'-8½"				
57°-30'	22¾"	6'- 5¾"	7'-6"	3'-6⅜"	4'-8½"				
55°	22 7/16"	5'-10¾"	7'-0"	3'-6¼"	4'-7½"				
52°-30'	22"	5'- 6¾"	6'-9"	3'-7½"	4'-8"				
50°	21 9/16"	5'- 2½"	6'-6"	3'-8½"	4'-8½"	2'-6"	6"	2'-4½"	2'-1"
47°-30'	21"	4'-10¼"	6'-3"	3'-9¼"	4'-9"				
45°	20⅜"	4'- 6"	6'-0"	3'-9½"	4'-9"				
42°-30'	19¾"	4'- 2"	5'-9"	3'-9⅝"	4'-8½"				
40°	18 15/16"	3'-10"	5'-6"	3'-9½"	4'-8"				

2000 LBS. CAPACITY

Angle of Chute A	B	C	D	F	G	H	J	K	L
60°	2'-10¼"	7'-11"	9'-0"	4'-0"	5'-2½"				
57°-30'	2'- 9 15/16"	7'- 4"	8'-6"	4'-0¾"	5'-3"				
55°	2'- 9⅝"	6'- 8⅝"	8'-0"	4'-1¼"	5'-2½"				
52°-30'	2'- 9 3/16"	6'- 4¼"	7'-9"	4'-2⅞"	5'-3½"				
50°	2'- 8¾"	5'-11⅝"	7'-6"	4'-4¼"	5'-4½"	3'-0"	3"	2'-1½"	1'-10"
47°-30'	2'- 8 3/16"	5'- 7"	7'-3"	4'-5¼"	5'-5"				
45°	2'- 7 9/16"	5'- 2½"	7'-0"	4'-6"	5'-5"				
42°-30'	2'- 6 15/16"	4'-10⅛"	6'-9"	4'-6½"	5'-5½"				
40°	2'- 6⅛"	4'- 5¾"	6'-6"	4'-6⅝"	5'-5"				

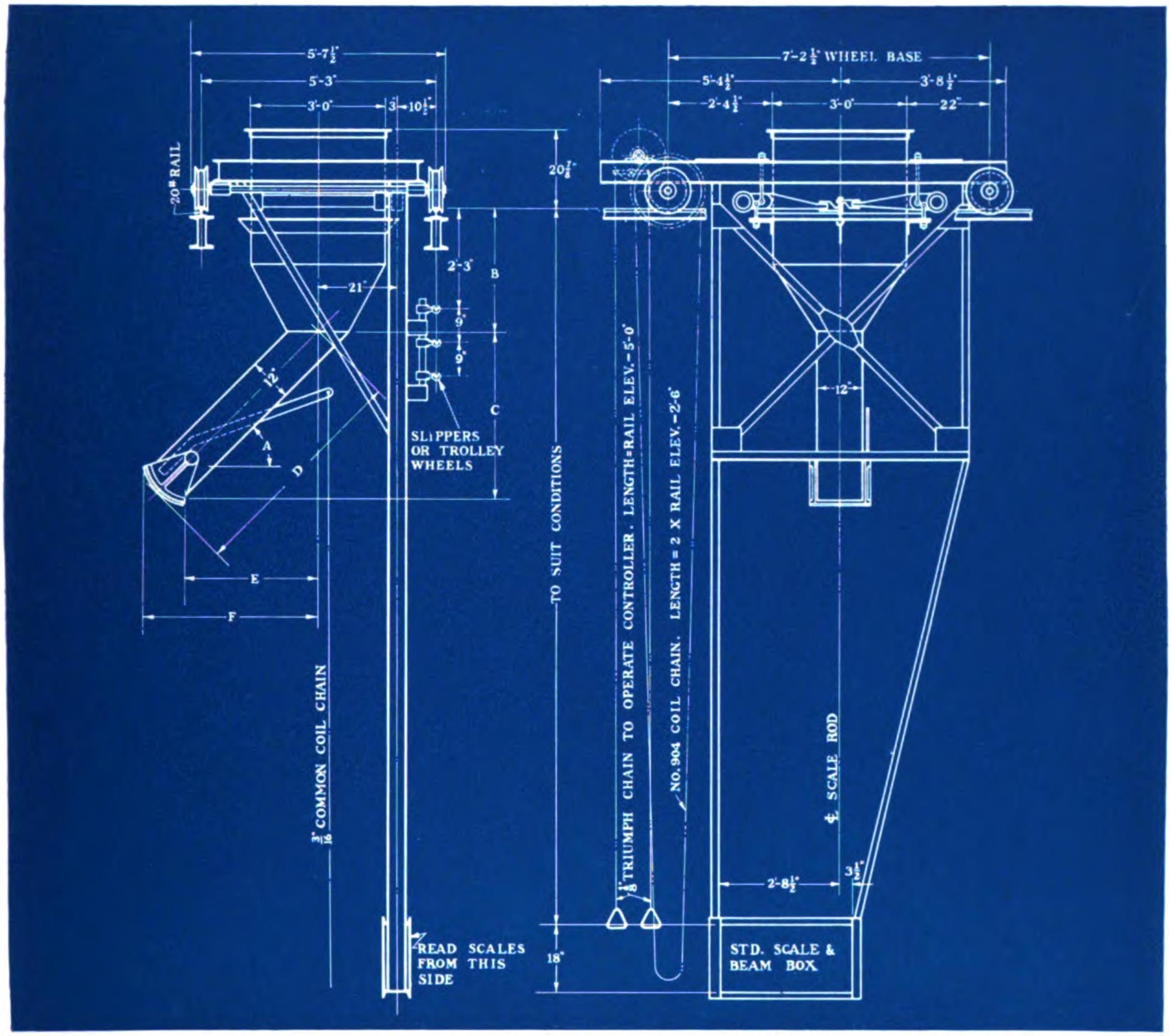
Weigh Larries



Jeffrey Motor Propelled Weigh Larry

THE Motor Propelled Weigh Larry is recommended for Boiler Rooms of moderate capacity, where the run is quite long and the number of boilers to be served greater than efficiency and economy would dictate for the hand propelled type. In both the hand propelled and motor propelled types, the scales can be read from the floor. For general dimensions see table on opposite page.

Weigh Larries

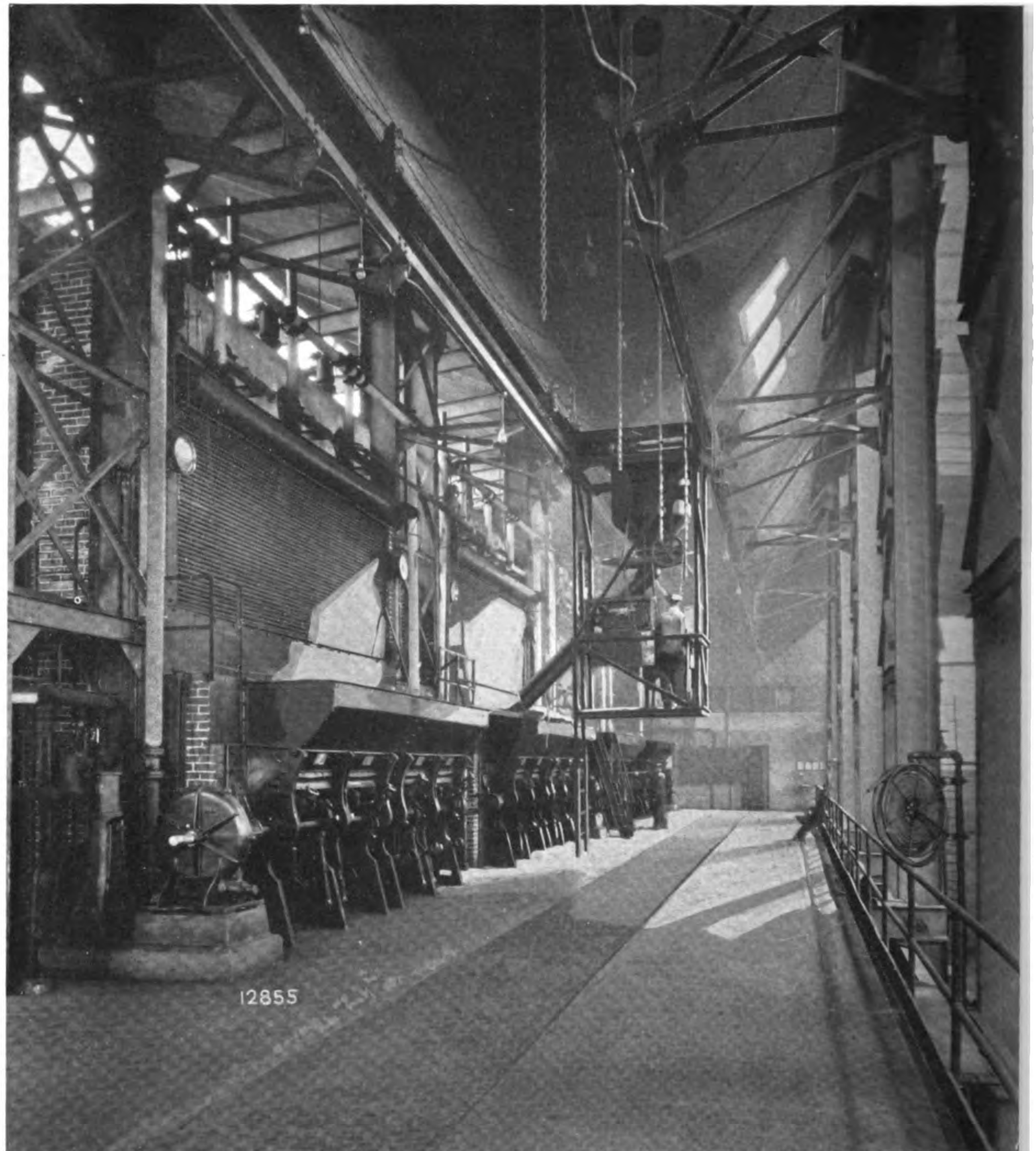


General Dimensions of Motor Propelled Weigh Larry

Capacity 2000 Pounds

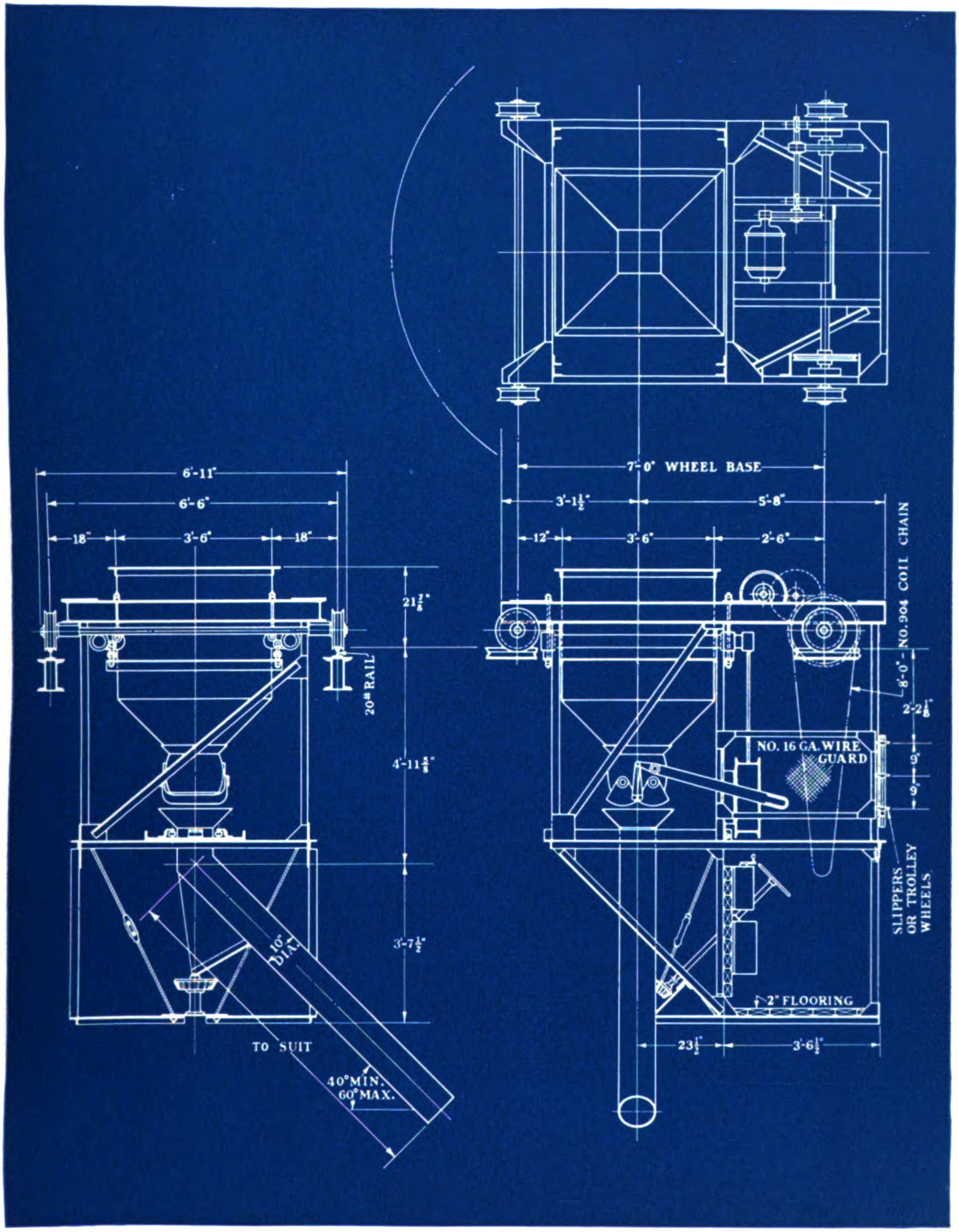
Angle of Chute A	B	C	D	E	F	Angle of Chute A	B	C	D	E	F
60°	2'-10¼"	7'-11"	9'-0"	4'-0"	5'-2½"	47°-30'	2'- 8 3/16"	5'- 7"	7'-3"	4'-5¼"	5'-5"
57°-30'	2'- 9 15/16"	7'- 4"	8'-6"	4'-0¾"	5'-3"	45°	2'- 7 9/16"	5'- 2½"	7'-0"	4'-6"	5'-5"
55°	2'- 9⅝"	6'- 8⅝"	8'-0"	4'-1¼"	5'-2½"	42°-30'	2'- 6 15/16"	4'-10⅛"	6'-9"	4'-6½"	5'-5½"
52°-30'	2'- 9 3/16"	6'- 4¼"	7'-9"	4'-2⅞"	5'-3½"	40°	2'- 6⅛"	4'- 5¾"	6'-6"	4'-6⅝"	5'-5"
50°	2'- 8¾"	5'-11⅝"	7'-6"	4'-4¼"	5'-4½"						

Weigh Larries



Jeffrey Motor Propelled Weigh Larry with Cab

THIS type of Weigh Larry is designed to meet the requirements of large modern Power Houses where many boilers are to be served. The carriage valves and weighing mechanism are all controlled from the operator's cab. The Swivel Spout enables it to serve boilers located on both sides of runway. See opposite page for general dimensions.



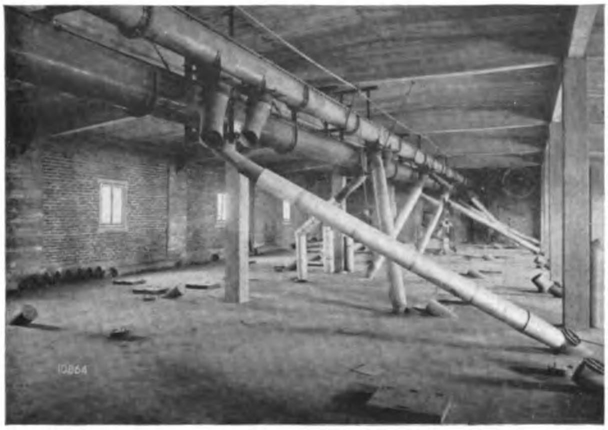
General Dimensions of Motor Propelled Weigh Larry with Cab

Capacity 2000 Pounds.

Slide Valves for General Service

Applicable to all kinds of Elevators, Conveyors, Bins and Hoppers

Dimensions and Prices on Application.



An application of Jeffrey Plain Slide Valve in connection with Spiral Conveyor.

Jeffrey Plain Rack and Pinion Slide Valve, operating in connection with Scraper Conveyor.

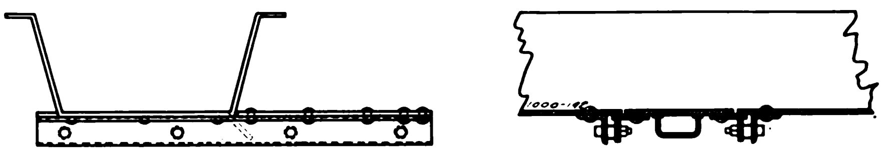


Figure 1.

Figure 1.
Plain Slide Valve, may be operated by links with lever in place of hand grip.

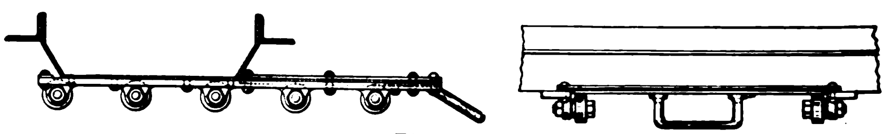


Figure 2.

Figure 2.
Roller Bearing Slide Valve, similar to Fig. 1 used especially under sticky, corrosive or wet freezing conditions.

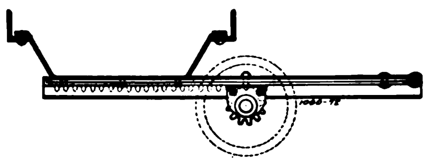


Figure 3.
Plain Rack and Pinion Slide Valve, operated by hand or chain wheel. Can be equipped with rollers same as Fig. 2.

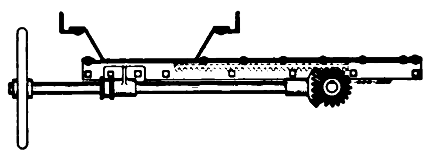


Figure 4.
Bevel Gear Operated Rack and Pinion Valve with horizontal operating shaft. The operating shaft may be placed vertical if desired.

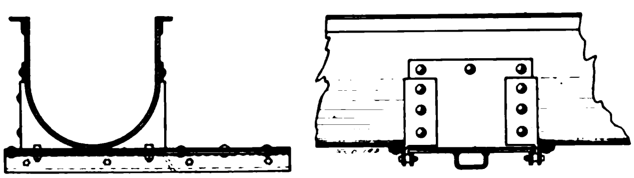


Figure 5.

Figure 5.
Plain Slide Valve as applied cross-wise to Spiral Conveyor trough. Length of opening in trough for free discharge should be at least $1\frac{1}{4}$ times the diameter of the spiral.

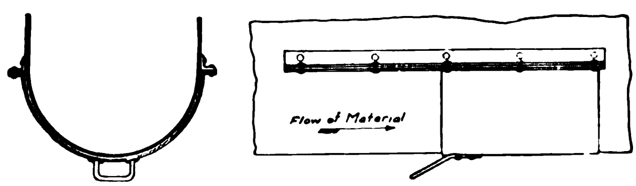
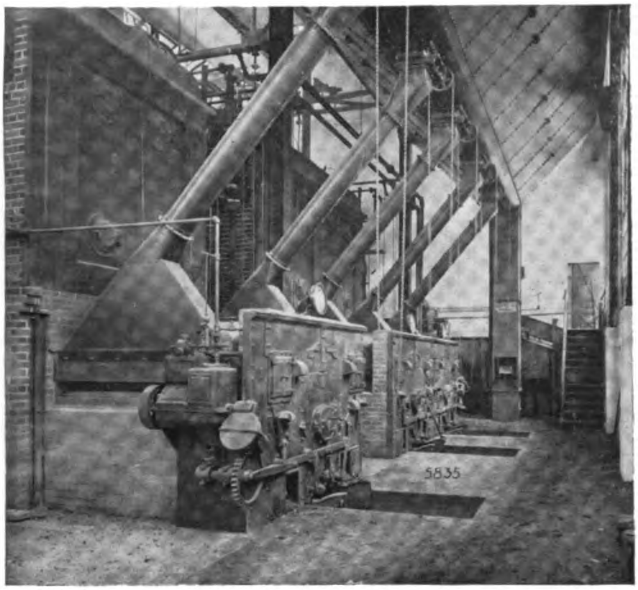


Figure 6.

Figure 6.
Plain Slide Valve rolled to fit length-wise of Spiral Conveyor trough. Valve to be placed to pull against the flow of material in trough.

For other Slide Valves, see page 278.

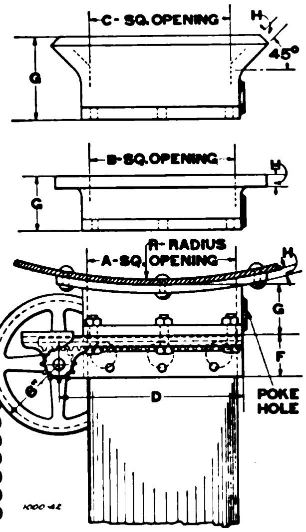
Bin Valves—Rack and Pinion Type

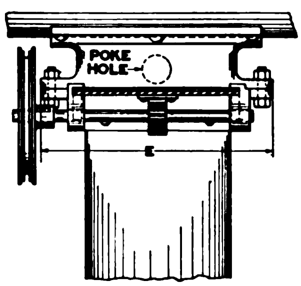


Jeffrey Rack and Pinion Bin Valves as installed in a large Power House.

Jeffrey Rack and Pinion Bin Valve

Valve Plate operates on rollers as shown in line drawing below.





RACK and Pinion Bin Valves are extensively used in connection with Dump Hoppers, Storage Bins, etc. They are rugged and substantial in every detail and by means of the great leverage secured through the hand or chain wheel in connection with the gear pinion and rack under the valve plate a large closing pressure may be readily secured.

Valves are furnished with 12″ hand wheels or 12″ pocket sheaves as ordered. The operating chain for pocket sheaves is extra, as given on page 523. Where the valve is to be operated at a distance, just sufficient chain may be secured to operate the valve, the free ends of the chain being connected to extension wires or ropes.

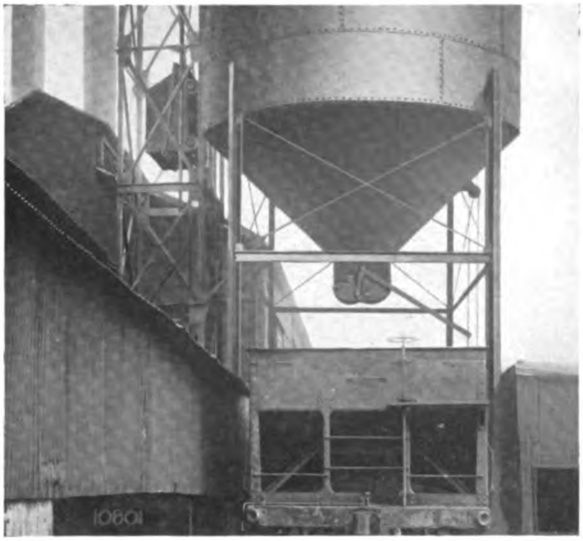
In practice it has been found that bolt holes in bin should be punched in field to match valves.

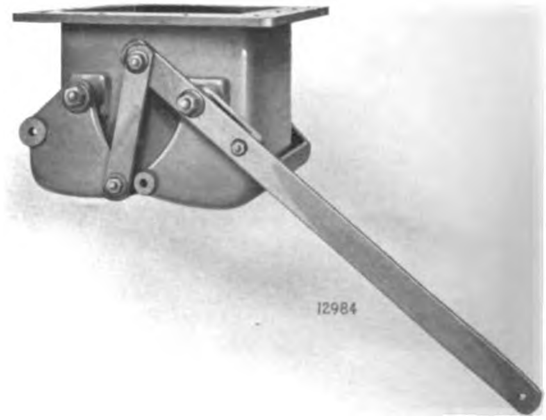
Dimensions of Rack and Pinion Bin Valve

Style	Item No.	List Price*	Approx. Weight Lbs.	Dimensions in Inches									Pattern No. of Nozzle at Bin
		Valve Plate resting upon rollers		A	B	C	D	E	F	G	H	R	
Curved Flange Nozzle	1	See Price List Bulletin	350	14	....	....	17 5/8	22 1/4	5	4 5/8	7/8	54	24361
	2		350	14	....	....	17 5/8	22 1/4	5	4 5/8	7/8	45	19883
	3		350	14	....	....	17 5/8	22 1/4	5	4 5/8	7/8	36	17602
	4		350	14	....	....	17 5/8	22 1/4	5	4 5/8	7/8	18	18320
	5		350	14	....	....	17 5/8	22 1/4	5	4 5/8	7/8	85	61468
	6		350	14	....	....	17 5/8	22 1/4	5	4 5/8	7/8	60	60419
	7		350	14	....	....	17 5/8	22 1/4	5	4 5/8	7/8	54 5/16	8140
	8		500	20	....	....	23 3/4	28 3/4	5	6	1 1/8	45	19217
Flat Flange Nozzle	9		350	....	14	....	17 5/8	22 1/4	5	4 5/8	7/8	....	9477
	10		350	....	14	....	17 5/8	22 1/4	5	6 5/8	7/8	....	19518
	11		500	....	20	....	23 3/4	28 3/4	5	7	1 1/8	....	19557
45° Bevel Flange Nozzle	12		350	....	....	14	17 5/8	22 1/4	5	6 1/4	7/8	....	18883

*In ordering give Page and Item Number. Hand Chains listed on page 523.

Bin Valves—Clam Shell Type

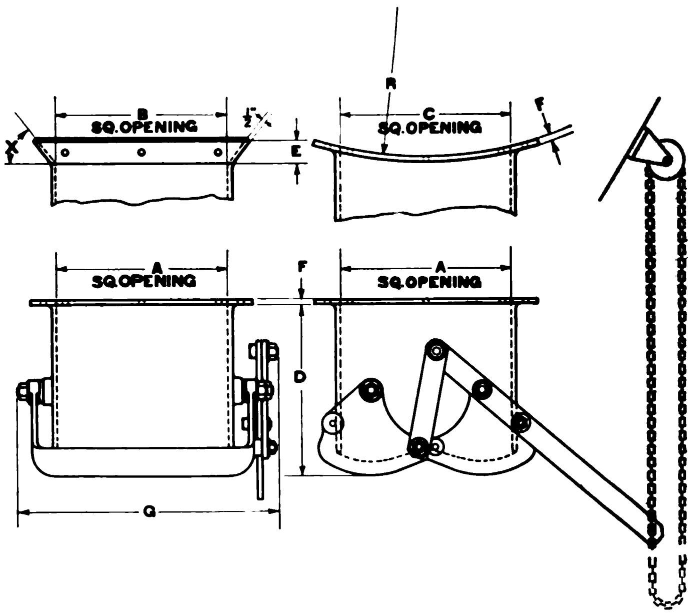




The illustration at left shows a Jeffrey 20" x 20" Clam Shell Valve used to load directly from an overhead storage bin of 2000 cubic feet capacity, into railroad cars.

JEFFREY Clam Shell Valves are of the same rugged construction and apply to the same service as the Rack and Pinion Valves on page 89. They are also extensively used in foundries and other industries where the valve is constantly in service and where a quick opening and closing of the clams is required. Operating chain and brackets are extra and are not furnished unless requested.

In practice it has been found best that bolt holes in bin should be punched in field to match valves.



General Dimensions

For Prices, See Price List Bulletin

Style of Top	A	B	C	D	E	F	G	R	X	Approx. Weight Lbs.	Pattern No. of Body
Flat Flange	16"			15¾"		¾"	2'- 1⅝"			361	62100
	20"			19¾"		¾"	2'- 7"			547	62087
	24"			22⅞"		¾"	2'-10¾"			588	62351
Bevel Flange		16"		15¾"	2½"		2'- 1⅝"		52°	345	62112
		20"		19¾"	2½"		2'- 7"		52°	537	62355
		24"		22⅞"	2½"		2'-10¾"		52°	577	62353
Curved Flange			16"	15¾"		¾"	2'- 1⅝"	4'-0"		380	62094
			20"	19¾"		¾"	2'-7"	4'-0"		558	62354
			24"	22⅞"		¾"	2'-10¾"	4'-0"		608	62352

24" Valves with Cast Iron Ends and Steel Sides—width variable to 48"Max. Information furnished on application

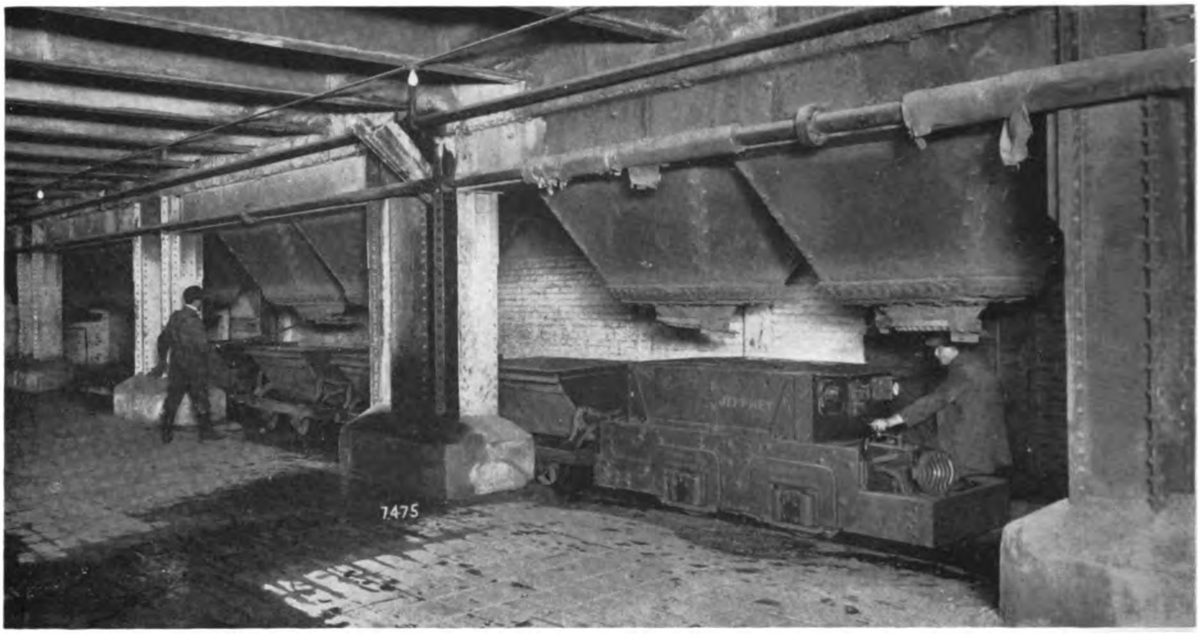
Portable Loading and Unloading Equipments

Jeffrey Portable Car Unloader—designed to unload coal from hopper-bottom railroad cars directly into motor truck, or can be extended to storage pile. The Jeffrey Portable Car Unloader is built to fit in between rails and car hopper-door, or where a permanent installation is desirable, it can be placed beneath rails as shown in illustration. For complete information on this equipment, see pages 414 and 415.

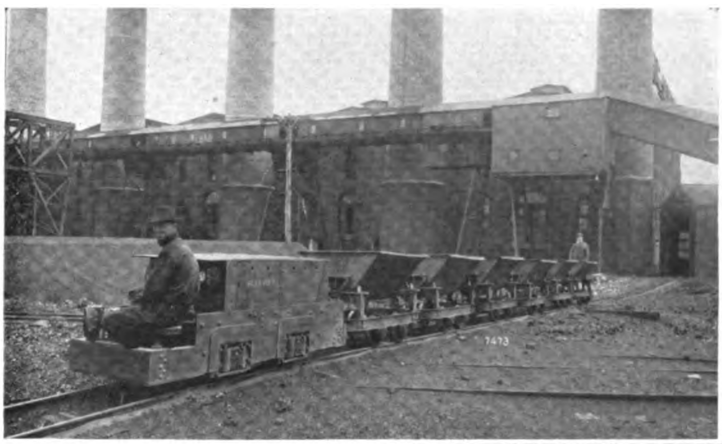
Jeffrey Portable Belt Conveyor is a light and inexpensive equipment, having a broad application in the handling of coal. It can be used for reclaiming coal from storage pile, or in connection with the Car Unloader above as an extension conveyor in storing coal. For complete information, see pages 416 and 417.

The Jeffrey Radial Loader as shown in opposite illustration is adapted to the handling of Coal, Cinders, Sand, Crushed Stone and similar loose materials. Can also be furnished mounted on caterpillar tread. Capacity, 1 to 2 cubic yards per minute. For complete information on Jeffrey Radial Loaders, see pages 408 to 412.

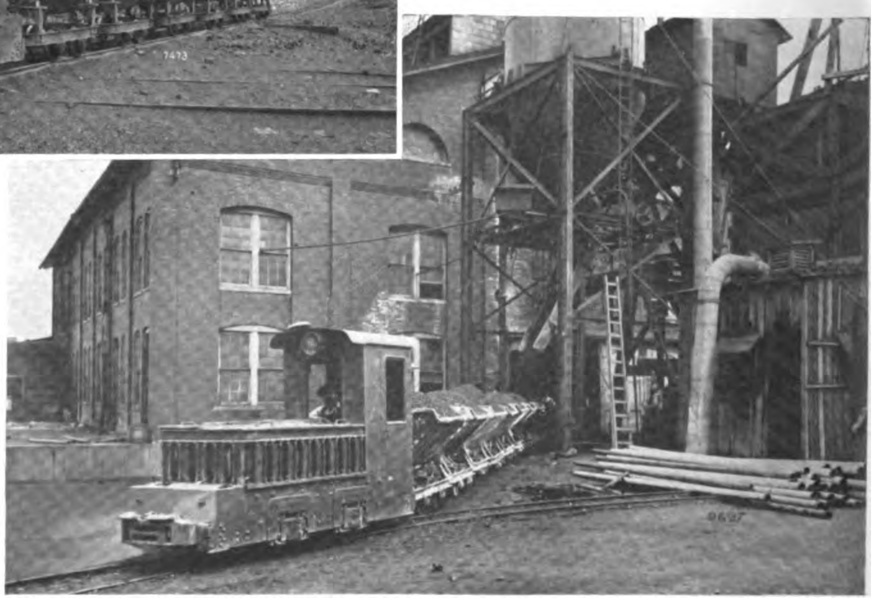
Storage Battery Locomotive



Large power plants using their ashes for filling purposes have found Jeffrey Storage Battery Locomotives, with a string of ash cars, the most economical and efficient means of conveying the ashes from the storage hoppers to the dump.



The battery capacity of the Jeffrey Storage Battery Locomotive is 63 A-10 Edison cells having a kilowatt hour capacity of 28 K. W. hours. It is capable of hauling 240 ton miles on level tracks on a single charge. Installation shows locomotive used by a large Public Service Corporation.



A JEFFREY Storage Battery Locomotive with a trip of six or eight cars in connection with an inclined trestle is used extensively for delivering ashes from ash pits directly into railroad cars where the daily volume of ashes is beyond the capacity of the ordinary ash bin.

For Detailed Information on Jeffrey Locomotives, see pages 631 to 638.

Advantages of Mechanical Draft in Power House Service

POWER HOUSES are constantly looking for power and labor saving apparatus. They are daily striving to discover means by which operating expenses may be decreased and plant efficiency increased.

The economy of Mechanical Draft is becoming more and more apparent to the man who produces his own power.

Also there are innumerable cases throughout the industrial world where the Power House is desirous of increasing its Boiler Capacity and is unable to do so because of the limited Draft to be obtained from their present stack. Enlarging the stack is costly and difficult. The answer will be found in Mechanical Draft. Enlarged Boiler capacity, Draft Control, independence of weather conditions and the ability to burn cheaper fuel are made possible by the installation of Mechanical Draft.

It is highly important that the Combustion Engineer be very careful in specifying the volume of air and the pressure it is to work against when contemplating the use of Mechanical Draft.

The following pages contain enough data to enable him to be specific in making known to us his requirements.

Below is a Typical Example in Forced Draft to Find the Air Required

Given a battery of 1000 H. P. Boilers with ordinary grates running at rated capacity, steam pressure 125 lbs., temperature of feed water being 212 degrees F.

What is the volume required in cubic feet per minute when the outside temperature is 70 degrees F?

From the table on page 96 we find the total heat in steam at 125 lbs. pressure equals 1192.2 B. T. U., and total heat of the feed water at 212 degrees F. equals 180 B. T. U., and therefore, the total heat required to evaporate 1 lb. of water equals:

$$\begin{array}{r} 1192.2 \text{ B. T. U.} \\ -\ 180.0 \text{ B. T. U.} \\ \hline 1012.2 \text{ B. T. U.} \end{array}$$

Assuming analysis of the coal consumed shows 12,000 B. T. U. per pound, and at a boiler efficiency of 70%, we find that: 12,000 x .70 ÷ 1012.2 = 8.3, or the pounds of water evaporated per pound of coal burned.

We know that one Boiler Horse-Power = 33,479 B. T. U., and so 33,479 ÷ 1012.2 = 33.1, or the pounds of water per boiler horse-power per hour.

If it requires 33.1 lbs. water per B. H. P. per hour and 1 lb. of coal will vaporize 8.3 lbs. of water, then 33.1 ÷ 8.3 = 4 lbs. coal required per boiler horse power per hour.

We find by consulting the table on page 95 that one pound of air at 70 degrees has a volume of 13.34 cu. ft. Good, safe practice will allow 19 lbs. of air per pound of coal consumed. (The theoretical requirement being 11.75 cu. ft.). Therefore, 19 lbs. of air at 70 degrees has a volume of 19 x 13.34, or 253.5 cu. ft. so 252.5 x 4 x 1,000 ÷ 60 = say 17,000, and thus 17,000 C. F. M. is required.

Thumb Rule for Required Air at any Temperature

C. F. M. = HxCxLxQ ÷ 60
in which:

H = Boiler Horse Power

C = 4 for good coal, 5 fair, 6 poor, and 7 very poor coal.

L = 19 (pounds air per pound coal)

Q = Volume of 1 lb. of air at temperature to be handled by fan from table page 95.

Mechanical Draft

Having determined the volume required the necessary draft is then needed.

The following figures will be found to suit average conditions:

Forced Draft

Using Ordinary grates and with a Duct System—1.75″ water gauge, static pressure.

Fan blowing into Ash Pit without Ducts —1.25″ water gauge Static Pressure.

Using stokers with chain grates of the underfeed type, the pressure varies from 1.5″ water gauge static pressure to 6″ water gauge static pressure, depending on the type and make of stoker.

Induced Draft

Suction Pressure required for a system with boilers running at rated capacity:

1.0″ W. G. Static Press. normal

1.25″ W. G. Static Press. 25% overload

1.75″ W. G. Static Press. 50%–60% overload

Formula for Determining Required Pressure

If it is desired to figure the total pressure or draft required this may be found by the following formula:

$$P = (R \div K)^2$$

In which

P = Pressure in inches of water
R = Rate of combustion in pounds per sq. ft. of grate per hour.
K = Constant for different grades of coal

The values of K are as follows:

Bituminous Lump	34
Bituminous Run Of Mine	30
Bituminous Slack	26
Anthracite Pea	22
Anthracite Buckweat	20
Anthracite Birdseye	15
Anthracite Culm	10

The above values are based on a Coal consumption of 20 pounds per sq. ft. grate area per hour.

In case economizers are used with an installation, between 50 to 60% should be added to the static pressure.

Fig. No. 1, page 95, gives another method of determining the pressure required for efficient combustion; it being a chart showing the difference in pressure between the ash pit and the space over the fire. To this pressure must be added the loss due to the frictional resistance of the boiler breeching, economizers, etc.

Mechanical Draft

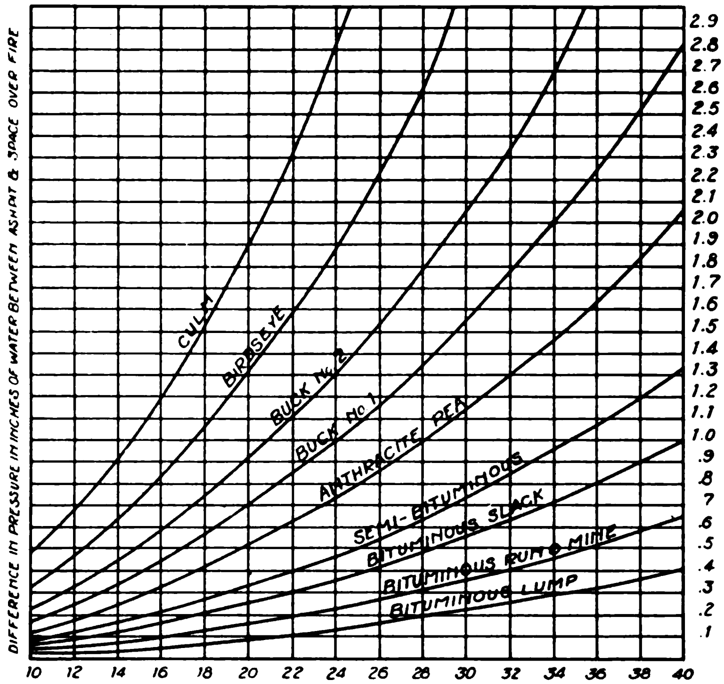


Figure 1
Coal consumption per sq. ft. of grate area per hour.

Volume and Density of Air at Various Temperatures

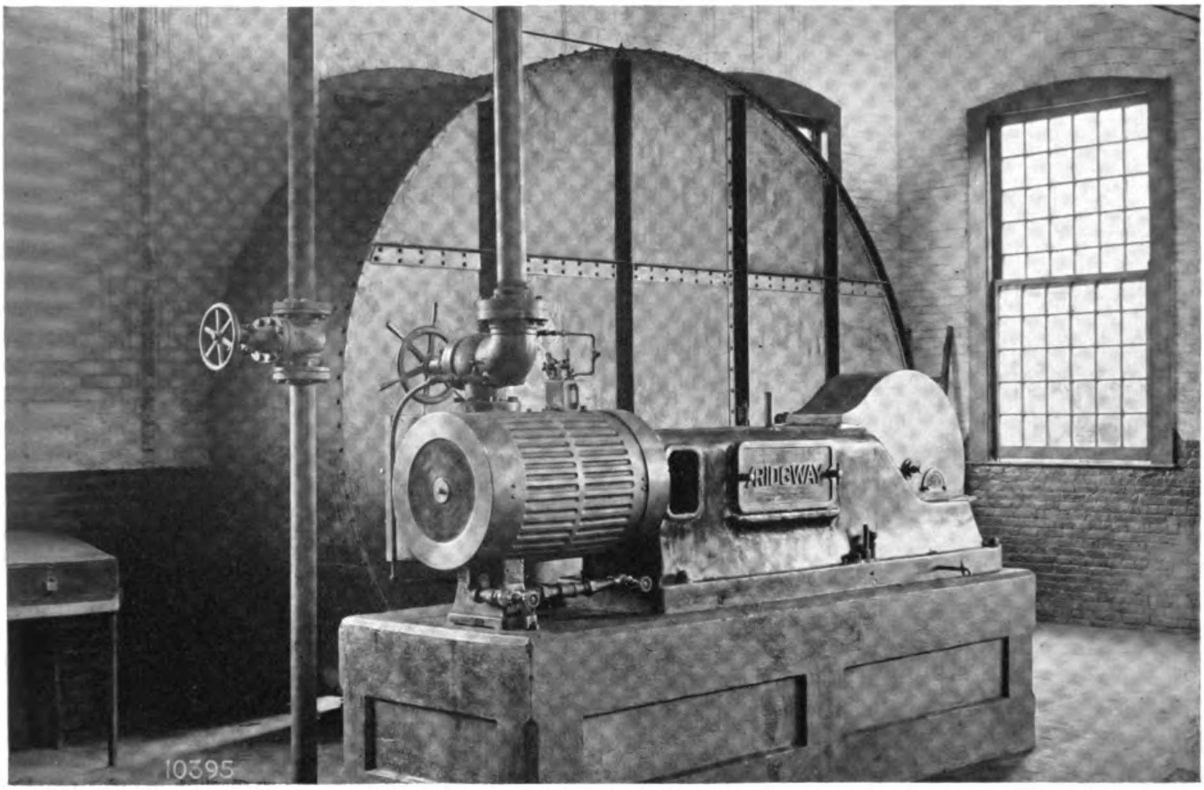
(At Atmospheric Pressure of 14.7 Lbs.)

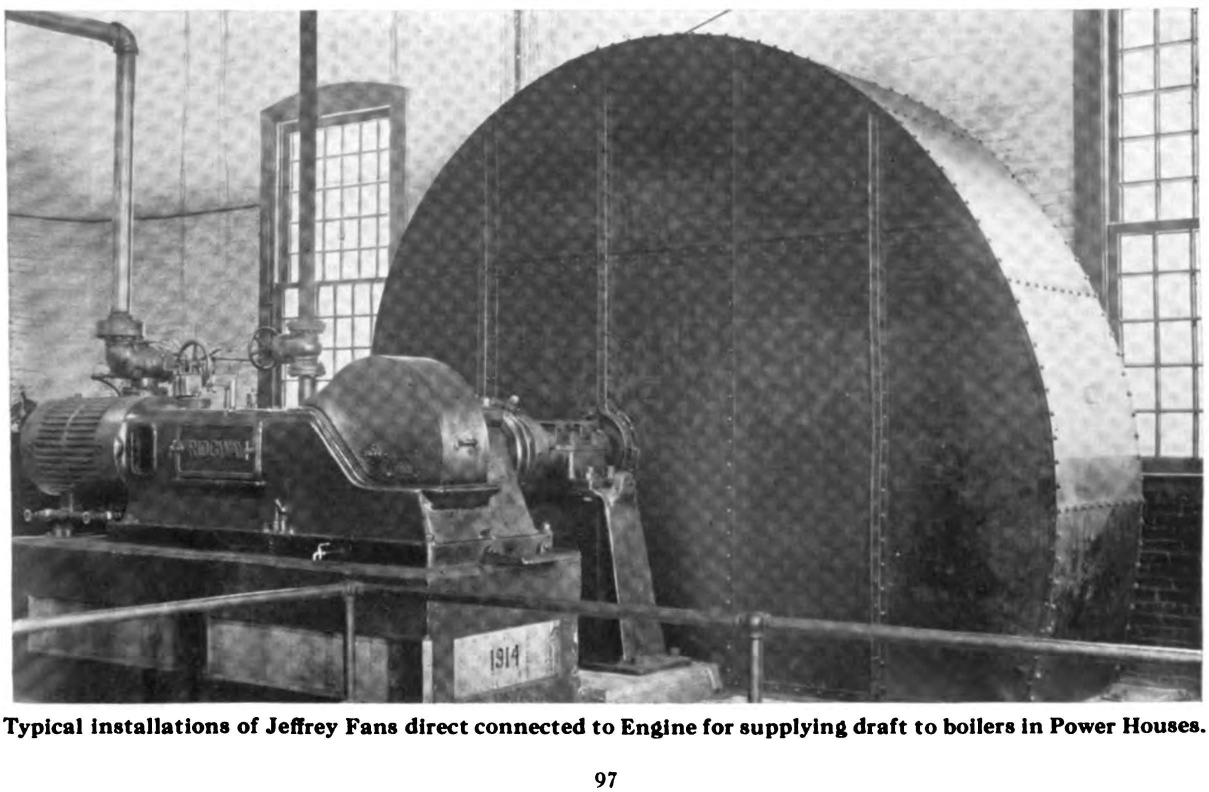
Temperature Degrees	Volume of 1 Lb. of Air Cubic Feet	Density or Weight of 1 cu. ft of Air Lbs.	Temperature Degrees	Volume of 1 Lb. of Air Cubic Feet	Density or Weight of 1 cu. ft. of Air Lbs.
0	11.583	.086331	320	19.624	.050959
32	12.387	.080728	340	20.126	.049686
40	12.586	.079439	360	20.63	.048476
50	12.84	.077884	380	21.131	.047323
62	13.141	.076096	400	21.634	.046223
70	13.342	.07495	425	22.262	.04492
80	13.593	.073565	450	22.89	.043686
90	13.845	.07223	475	23.518	.04252
100	14.096	.070942	500	24.146	.041414
120	14.592	.0685	525	24.775	.040364
140	15.1	.066221	550	25.403	.039365
160	15.603	.064088	575	26.031	.038415
180	16.106	.06209	600	26.659	.03751
200	16.606	.06021	650	27.915	.035822
210	16.86	.059313	700	29.171	.03428
212	16.91	.059135	750	30.428	.032865
220	17.111	.058442	800	31.684	.031561
240	17.612	.056774	850	32.941	.030358
260	18.116	.0552	900	34.197	.029242
280	18.621	.05371	950	35.454	.028206
300	19.121	.052297	1000	36.811	.027241

Properties of Saturated Steam

Pressure Lbs.	Temp. Degs. Fahr.	Heat of Liquid	Latent Heat of Evap.	Heat Content of Steam	B. T. U. Evap.
......	102.0	69.8	1034.6	1104.4	972.9
......	126.2	94.0	1021.0	1115.0	956.7
......	141.5	109.4	1012.3	1121.6	946.4
......	153.0	120.9	1005.7	1126.5	938.6
......	170.1	137.9	995.8	1133.7	927.0
......	188.3	156.2	985.0	1141.1	914.4
......	193.2	161.1	982.0	1143.1	910.9
......	202.0	169.9	976.6	1146.5	904.8
......	205.9	173.8	974.2	1148.0	902.0
......	210.0	177.5	971.9	1149.4	899.3
0	212.0	180.0	970.4	1150.4	897.6
2	219.4	187.5	965.6	1153.1	892.1
4	225.4	193.4	961.8	1155.2	887.8
6	230.6	198.8	958.3	1157.1	883.9
8	235.5	203.8	955.1	1158.8	880.2
10	240.1	208.4	952.0	1160.4	876.8
15	250.3	218.8	945.1	1163.9	869.0
20	259.3	227.9	938.9	1166.8	862.1
30	274.5	243.4	928.2	1171.6	850.3
40	287.1	256.3	919.0	1175.4	840.2
50	298.0	267.5	911.0	1178.5	831.4
60	307.6	277.4	903.7	1181.1	823.5
70	316.3	286.3	897.1	1183.4	816.3
80	324.1	294.5	890.9	1185.4	809.7
91	332.0	302.7	884.7	1187.4	803.0
101	338.7	309.6	879.3	1189.0	797.4
115	347.4	318.6	872.3	1191.0	790.0
125	353.1	324.6	867.6	1192.2	785.0
145	363.6	335.6	858.8	1194.5	775.8
150	365.1	338.2	856.8	1195.0	773.6
165	373.1	345.6	850.8	1196.4	767.4
175	377.6	350.4	846.9	1197.3	763.4
205	389.9	363.4	836.2	1199.6	752.3
215	393.8	367.5	832.8	1200.2	748.8
225	397.4	371.4	829.5	1200.9	745.4

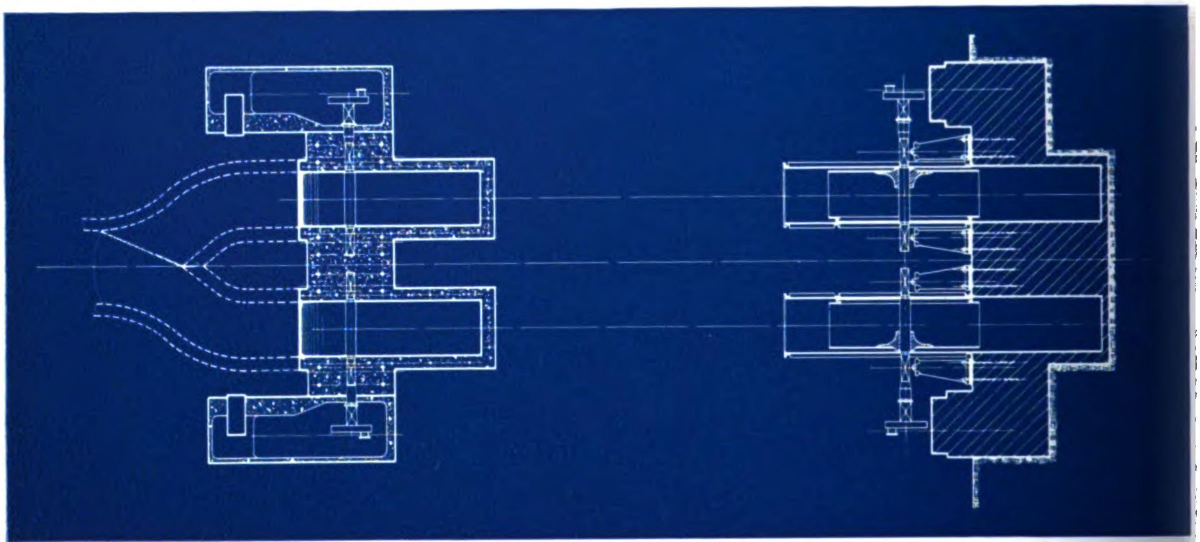
Mechanical Draft



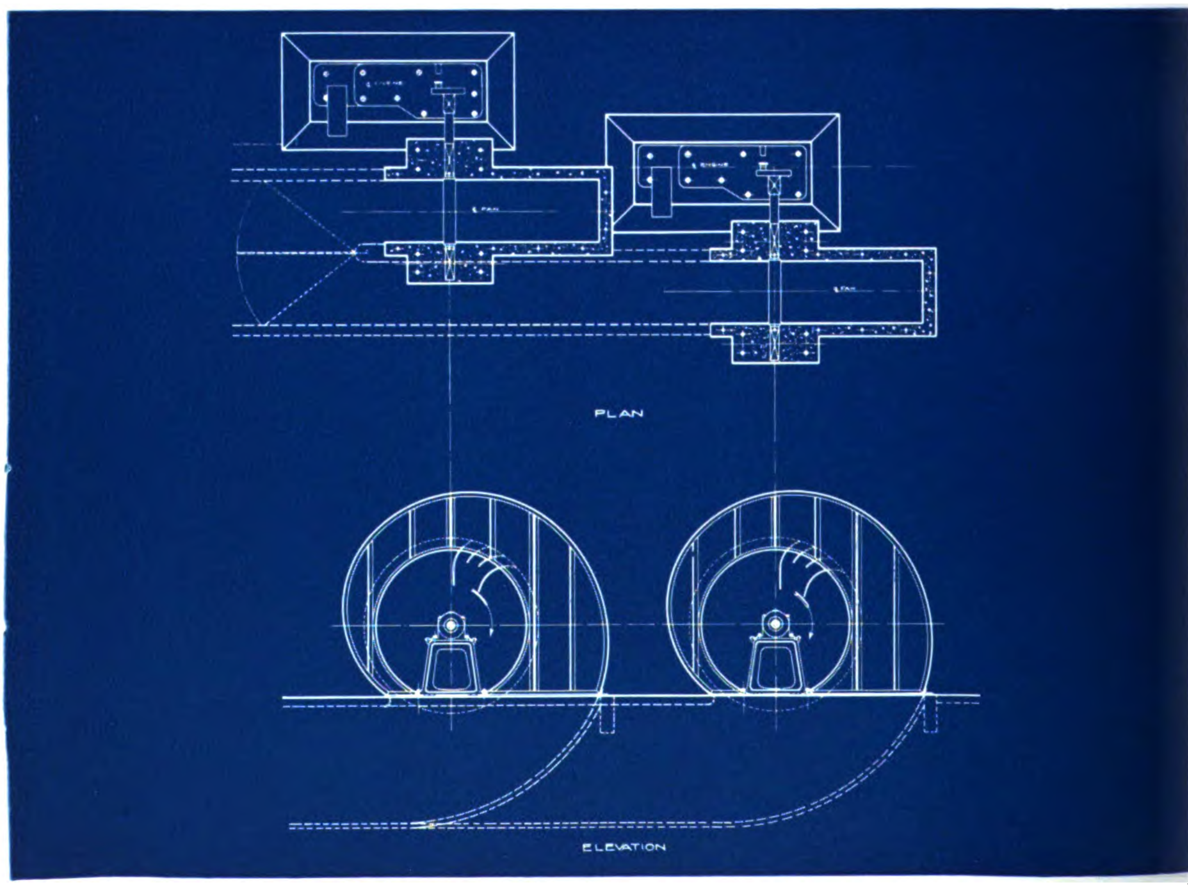


Typical installations of Jeffrey Fans direct connected to Engine for supplying draft to boilers in Power Houses.

Mechanical Draft



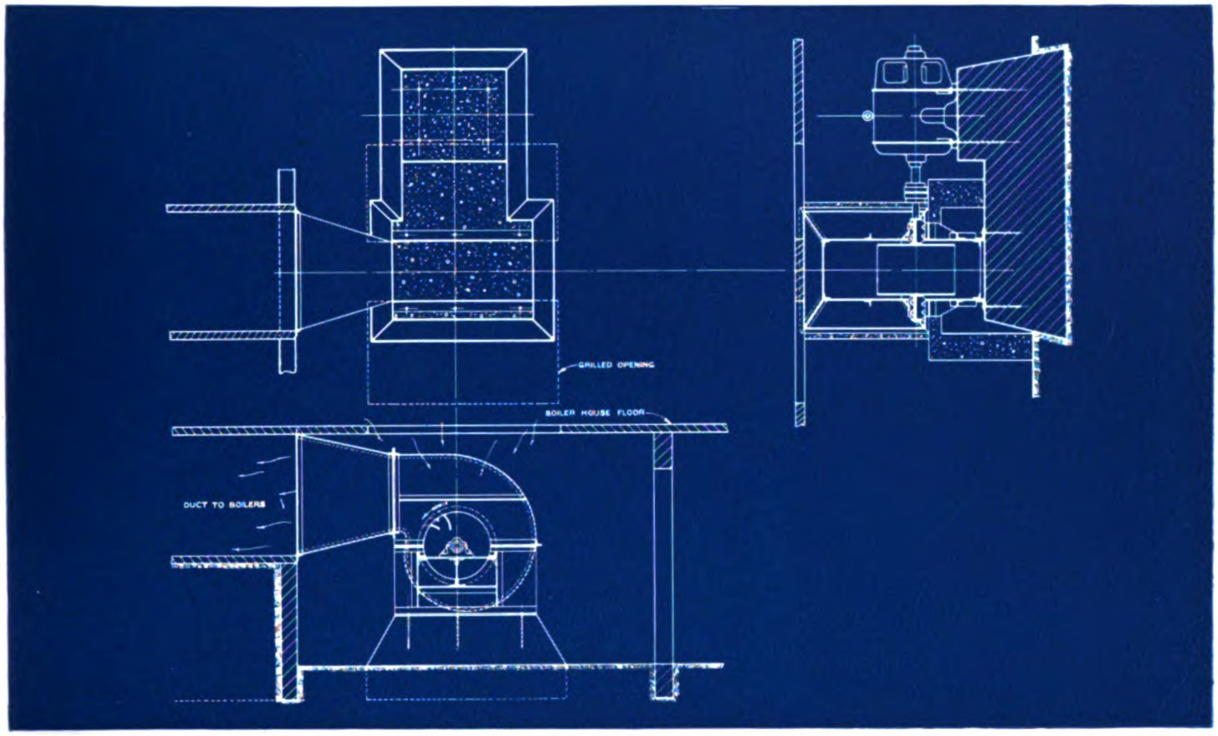
A pair of 10'-0" x 3'-0" Single Inlet Jeffrey Forced Draft Fans. One is held in reserve in case of emergency. Where plenty of room is available units may be placed side by side as shown.



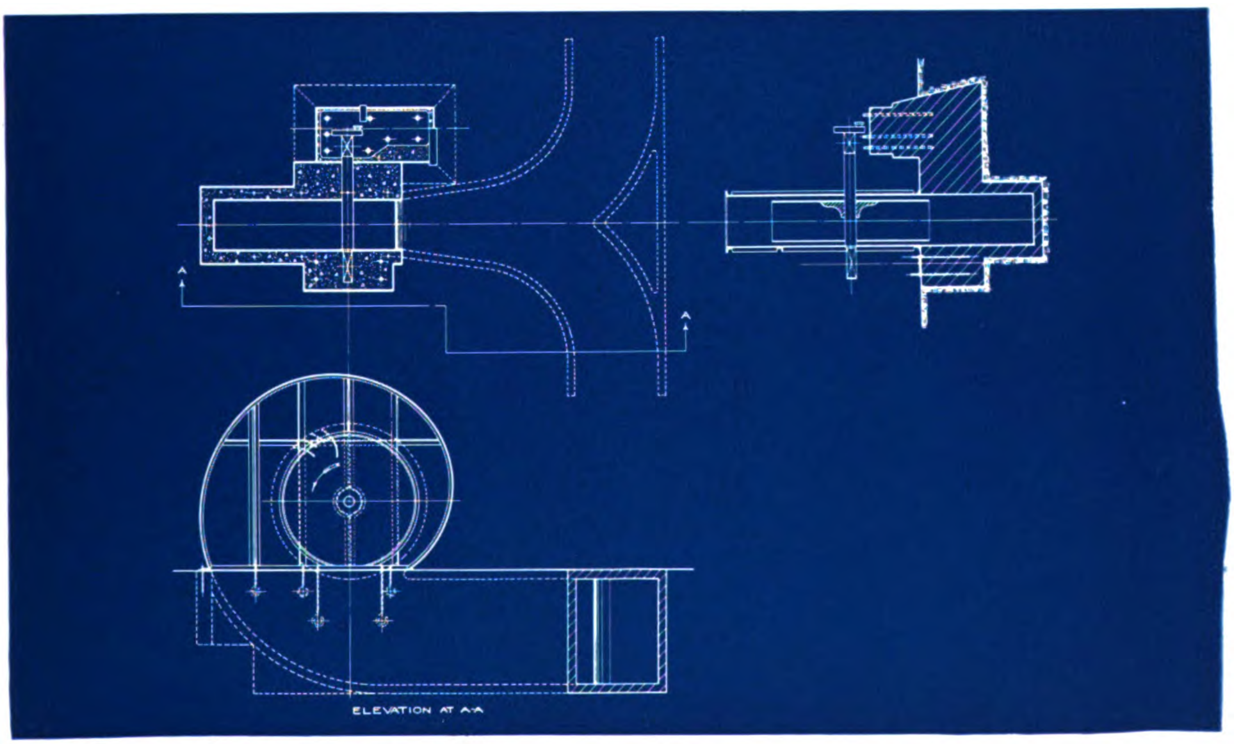
A pair of 12'-0" x 3'-6" Single Inlet Jeffrey Forced Draft Fans. In this case owing to lack of room the reserve unit is placed as shown.

For Further Details of these Fans, see pages 716 to 745.

Mechanical Draft



The above cut shows a 5′-6″ x 2′-0″ Jeffrey Fan direct connected to a variable speed motor, used for Forced Draft in connection with Underfeed Stokers.



A 10′-0″ x 2′-6″ Single Inlet Jeffrey Fan direct connected to an engine. This is a typical arrangement popular with those who do not care for very high speeds for their Mechanical Draft Units.

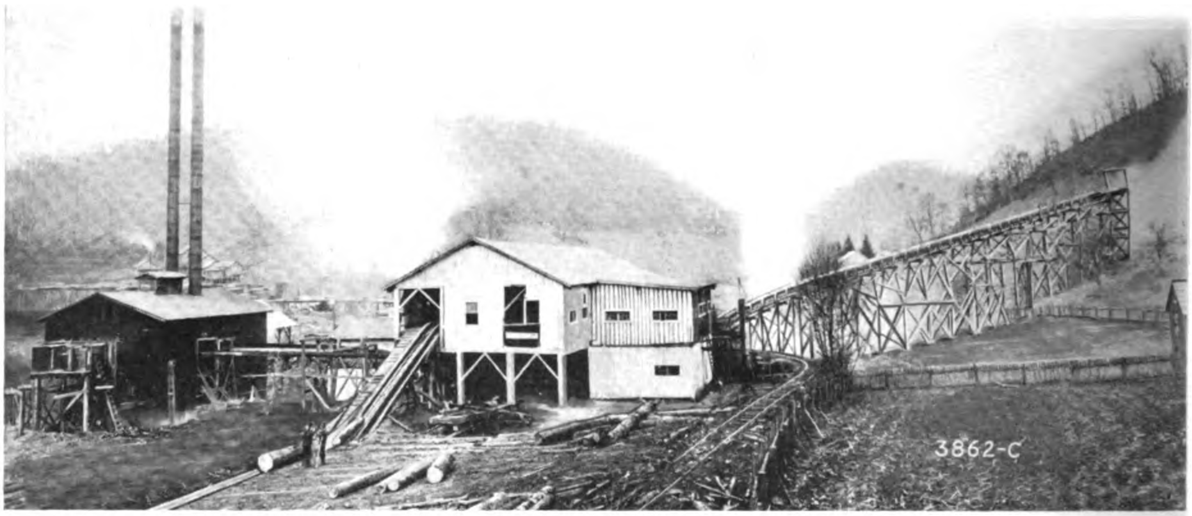
For Further Details of these Fans, see pages 716 to 745.

Equipments for Saw *and* Lumber, Pulp *and* Paper Mills

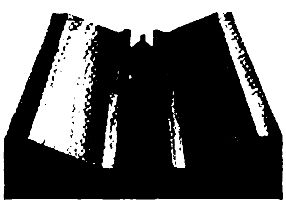
Section 2

Saw Mill Equipment—Log Haul-Up Conveyors

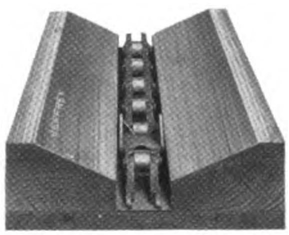
Jeffrey Standard Log Haul-up made up with Chain with Cast Steel Spurs.



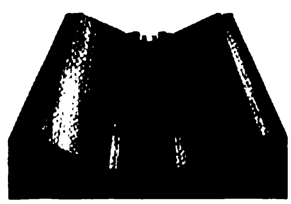
Haul-up Conveyor with straight run at bottom to receive logs from yard storage and railroad cars.



Cast Steel Log Haul-up Spur upon a long link welded steel chain and operating on steel strips as shown in upper illustration. For list of Chains and Attachments see page 522.



Log Haul-up made from an extra strong malleable roller chain having steel pins with renewable spurs riveted to top of the chain. For list of Chains and Attachments, see page 484.



Cast Steel Log Haul-up Spur mounted upon a Vulcan Steel Chain and sliding on flat steel strips. For list of these Chains and Attachments, see page 504.

Return Strand of Cast Steel Log Haul-up showing the spur inverted and running astride of longitudinal guides.

Saw Mill Equipment—Log Haul-Up Conveyors

Jeffrey Log Haul-up Conveyor handling logs from stream to mill. Lower end of Chain Conveyor is placed under water so that logs may be readily drifted into place.

Jeffrey Cable Chain Conveyors with Plain Spurs or Roller Mounted Spurs at Intervals, are especially adapted to long haulages.

Jeffrey Tie Hoist used as a Cross Conveyor or Loader to a main storage Conveyor.

Another type of Cable Chain Conveyor with Roller Mounted Spurs for handling logs on long distance hauls.

Log Haul-up with renewable Spurs and Rollers mounted on Jeffrey Flat and Round Steel Link Chain.

For Chains, see pages 423 to 528.

Saw Mill Equipment—Log Haul-Up Conveyors

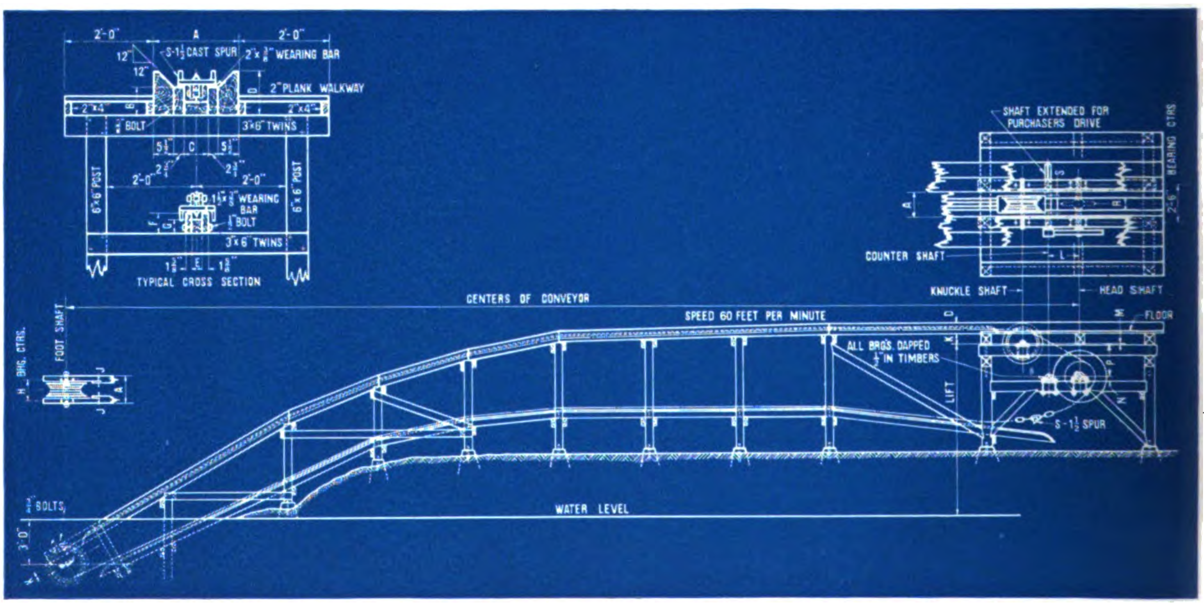
Specifications

No. of Conveyor	3293	3294	3295	3296	3297
Chain					
Number	530	531	532	533	534
Spacing of Spurs	To suit	To suit	To suit	To suit	To suit
Head Shaft					
Dia. In.	$2\frac{15}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$	$3\frac{15}{16}$	$3\frac{15}{16}$
Rev. per Min.	15	15	10	10	10
Size Sprockets In.	$15\frac{3}{4}$	$15\frac{3}{4}$	$23\frac{1}{2}$	23	$23\frac{3}{4}$
Gear Dia. In.	29.83	29.83	40.12	48.41	48.41
Gear Pitch. In.	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{2}$	2	2
Gear Face In.	3	3	4	6	6
Knuckle Shaft					
Dia. In.	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$
Dia. Drum In.	16	16	24	24	27

No. of Conveyor	3293	3294	3295	3296	3297
Counter Shaft					
Diam. Inches	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$
Rev. per Min.	75	75	56	51	51
Pinion Dia. In.	6.01	6.01	7.22	9.62	9.62
Pinion Face In.	$3\frac{1}{4}$	$3\frac{1}{4}$	$4\frac{1}{2}$	$6\frac{1}{2}$	$6\frac{1}{2}$
Foot Shaft					
Dia. In.	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$
Dia. Drum In.	16	16	24	24	27
Approx. Ship Wt.					
Terminal, Lbs.	1150	1275	2250	3000	3050
Chain per Ft. without Spurs Lbs.	2.0	2.7	4.0	5.25	7
Prices	(See Price List Bulletin.)				

Driving Pulley not included.

Before ordering give us the diameter and length of logs, centers of conveyor and the maximum number of logs to be handled per hour so that the proper selection of conveyor can be made.

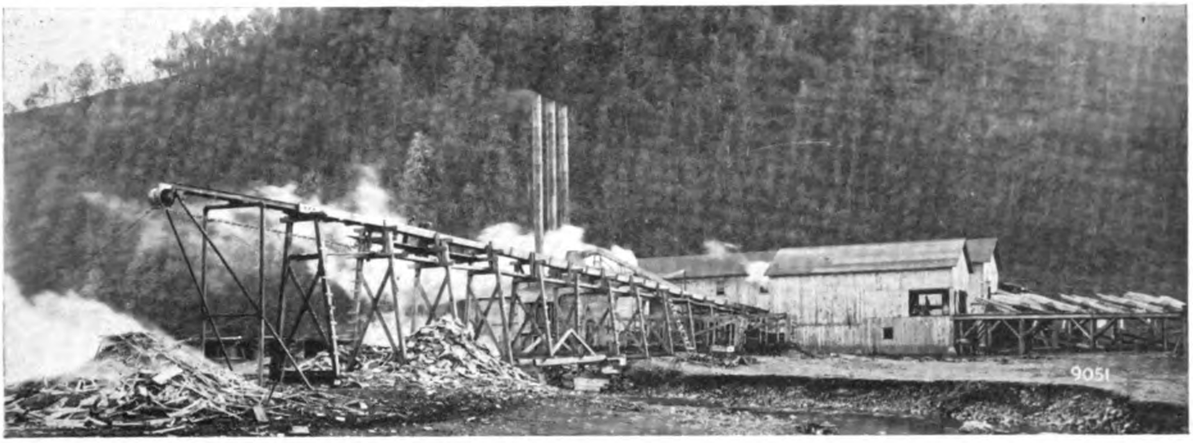


The construction shown above is ordinarily used for haulage from river to ground storage or direct to mill; but is equally well adapted to the service of hauling from ground storage to mill.

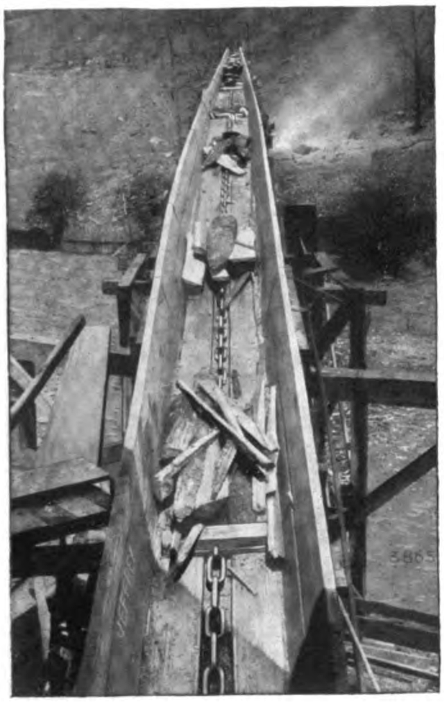
Dimensions of Standard Log Haul-Up Machinery

Conveyor No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S
3293	$20\frac{1}{8}$	$5\frac{1}{2}$	$3\frac{5}{8}$	$9\frac{1}{2}$	2	$3\frac{5}{8}$	2	$14\frac{5}{8}$	$\frac{1}{2}$	$3\frac{1}{8}$	$17\frac{15}{16}$	$1\frac{3}{16}$	$3\frac{1}{8}$	26	$9\frac{3}{4}$	$10\frac{1}{8}$
3294	21	$5\frac{1}{2}$	$4\frac{1}{2}$	$9\frac{1}{2}$	$2\frac{1}{2}$	$3\frac{5}{8}$	2	$15\frac{1}{2}$	$\frac{1}{2}$	$3\frac{5}{8}$	$17\frac{15}{16}$	$1\frac{3}{16}$	$3\frac{1}{8}$	26	$10\frac{1}{4}$	11
3295	$21\frac{3}{4}$	$5\frac{1}{2}$	$5\frac{1}{4}$	$9\frac{1}{2}$	$2\frac{1}{2}$	$5\frac{1}{2}$	$3\frac{5}{8}$	$16\frac{1}{2}$	$\frac{7}{8}$	$7\frac{1}{2}$	$23\frac{11}{16}$	$1\frac{5}{8}$	$3\frac{1}{2}$	26	11	$12\frac{1}{2}$
3296	22	$5\frac{1}{2}$	$5\frac{1}{2}$	$9\frac{1}{2}$	$2\frac{5}{8}$	$5\frac{1}{2}$	$3\frac{5}{8}$	$17\frac{1}{4}$	....	$7\frac{5}{8}$	29	2	$3\frac{7}{8}$	28	$11\frac{1}{2}$	$11\frac{1}{2}$
3297	$22\frac{3}{4}$	$7\frac{1}{2}$	$6\frac{1}{4}$	$11\frac{1}{2}$	$2\frac{5}{8}$	$5\frac{1}{2}$	$3\frac{5}{8}$	18	....	$7\frac{1}{2}$	29	2	$3\frac{7}{8}$	28	12	12

Saw Mill Equipment—Refuse Conveyors

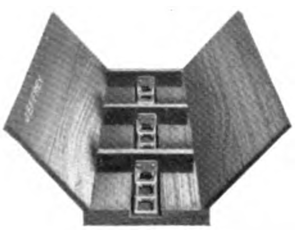


Jeffrey Lumber Refuse Conveyor for removing refuse from mill to burner.

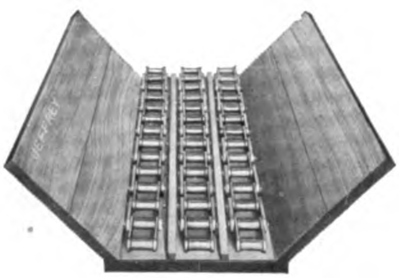


The above view shows a Jeffrey Refuse Conveyor of large capacity, made up of a plain drag chain.

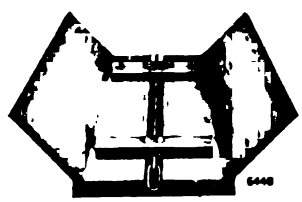
The view at the left shows a Jeffrey Cable Chain Refuse Conveyor.



A light service conveyor made from Detachable Chain with F-2 Attachments or any other type of malleable chain with similar attachments. For list of this type of chain and attachments, see page 432.

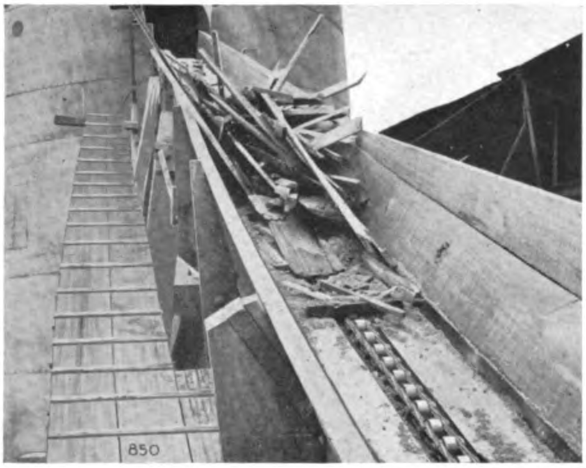


A series of plain chains in a wide trough make an excellent conveyor for handling logs from saws to stackers or barkers. For list and further details on this type of chain, see page 471.



An inexpensive and effective Pulp Wood and Refuse Conveyor made from Jeffrey Long Link Coil Chain with U Bolts and Wood Cross-Bars at intervals. For list of this type of chain and attachment, see page 522.

Saw Mill Equipment—Refuse Conveyors

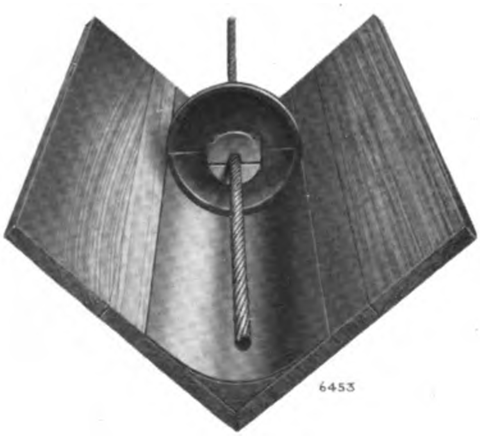


Jeffrey Refuse Conveyor consisting of a Roller Chain with angle iron Scrapers. For complete information on this type of chain and attachments, see page 484.

Jeffrey Malleable Drag Chain Refuse Conveyors, are especially fitted for service in handling refuse on account of long internal wearing surface of pin. For complete information on this chain, see page 512.

Saw Dust and Short Refuse Conveyor made from a plain Steel Drag Chain sliding upon a steel plate. For complete information on this chain, see page 514.

A Malleable Drag Refuse Chain mounted upon a steel plate. For complete information on this chain, see page 512.



Jeffrey Wire Cable Refuse Conveyor is best adapted for large capacities of large size bulk materials such as wood blocks, refuse, run-of-mine coal, etc. For complete information on Jeffrey Cable Conveyors, see pages 333 to 342.

Handling refuse with Jeffrey Wire Cable Conveyor as shown at left. An all steel trough with re-enforcing angles on the top edges may be used in place of the wood trough with steel lining shown.

For Chains, see Pages 423 to 528.

Saw Mill Equipment—Refuse Conveyors

Specifications†

No. of Conveyor	3471	3472	3473	3474	3475
Chain*					
Number	530	531	532	533	534
Spacing of Flights	4′-0″	4′-0″	4′-0″	4′-0″	4′-0″
Drive Shaft					
Diam. In.	2 7/16	2 15/16	3 7/16	3 15/16	3 15/16
Rev. per Min.	15	12	10	10	10
Sprocket Diam.	15¾	19½	23½	23	23¾
Gear Diam.	29.83	29.83	40.12	48.41	48.41
Gear Pitch	1¼	1¼	1½	2	2
Gear Face	3	3	4	6	6
Counter Shaft					
Diam. In.	1 15/16	2 7/16	2 7/16	3 7/16	3 7/16
Rev. per Min.	75	60	56	51	51
Pinion Diam.	6.01	6.01	7.22	9.62	9.62
Pinion Face	3¼	3¼	4½	6½	6½

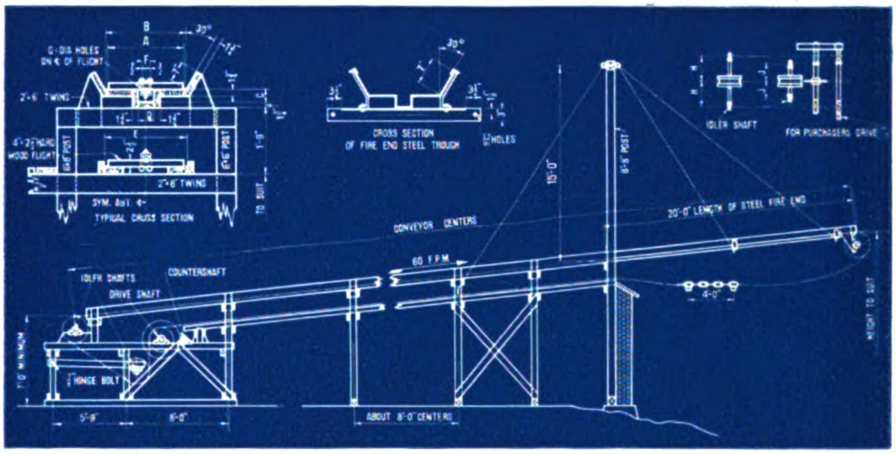
No. of Conveyor	3471	3472	3473	3474	3475
Idler Shafts					
Diam. In.	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16
Diam. Drum	16	16	20	24	24
Drum Shaft					
Diam. In.	2 7/16	2 15/16	3 7/16	3 15/16	3 15/16
Drum Diam.	20	20	20	24	24
Drum Face	16	16	20	24	24
Trough					
Gauge	10	10	3/16	3/16	3/16
Approx. Ship Wt.					
Term., Lbs.	1200	1450	2000	3350	3350
Trough, Lbs.	700	700	900	975	975
Chain per Ft. lbs.	2	2.7	4.0	5.25	7
Prices	See Price List Bulletin				

*Amount of chain required equals twice conveyor centers plus 10 ft.

Hanger Rods (or cable) for fire end of trough furnished by Purchaser.

Wood flights and U-bolts furnished by purchaser unless specified on order.

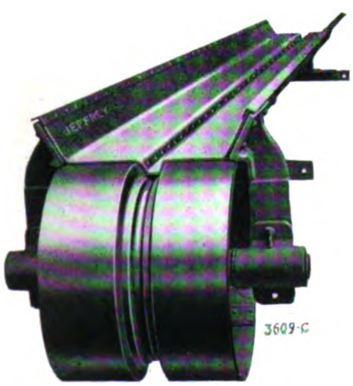
When fire end is omitted, two standard solid journal boxes are furnished for the foot end in place of the brackets and bearings which are attached to the fire end trough.



Typical Refuse Conveyor, showing Fire End.

†The above specifications in each case are for conveyors using about 500 feet of chain. For longer conveyors it will be well to use the next heavier driving rig. For example: If a conveyor requires 600 feet of No. 530 Chain, use the driving rig for No. 531.

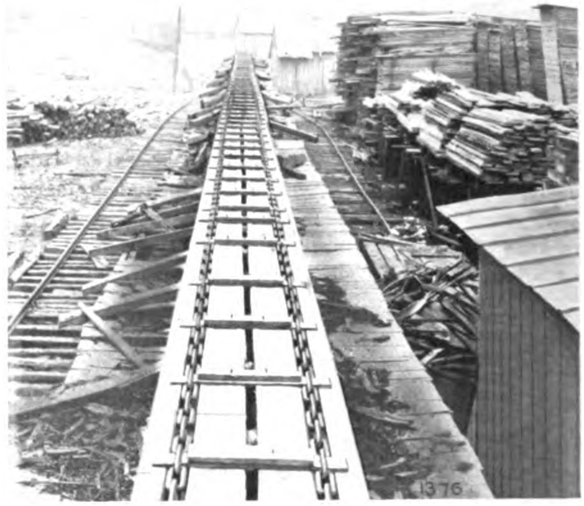
Conveyor No.	A	B	C	D	E	F	G	H	J
3471	16	16½	2¾	3⅜	18	1⅜	9/16	19	13
3472	16	16½	2¾	3⅜	18	1⅝	11/16	19	13
3473	20	20½	2¾	3⅝	22	1⅝	11/16	21	15
3474	24	24½	3¼	4¾	26	2	13/16	24	17
3475	24	24½	3¼	4¾	26	2½	15/16	24	17



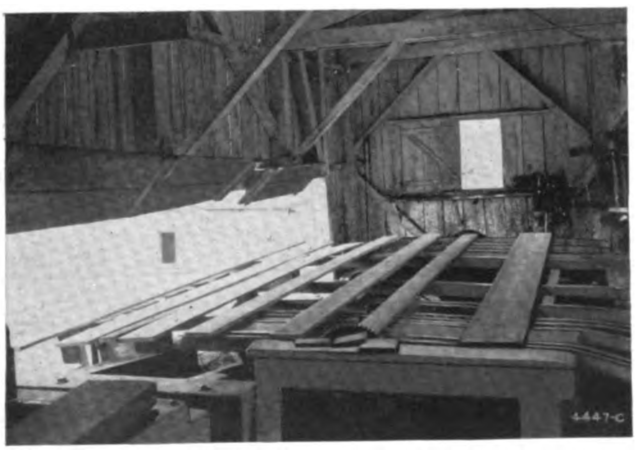
JEFFREY Fire End Terminals consist of Trough Extension over fire with angle iron stiffeners at top edge, drum, cast iron brackets, drum shaft, bearings and collars, as illustrated.

Saw Mill Equipment—Lumber Conveyors

Jeffrey Cable Conveyor for transporting lumber across river.

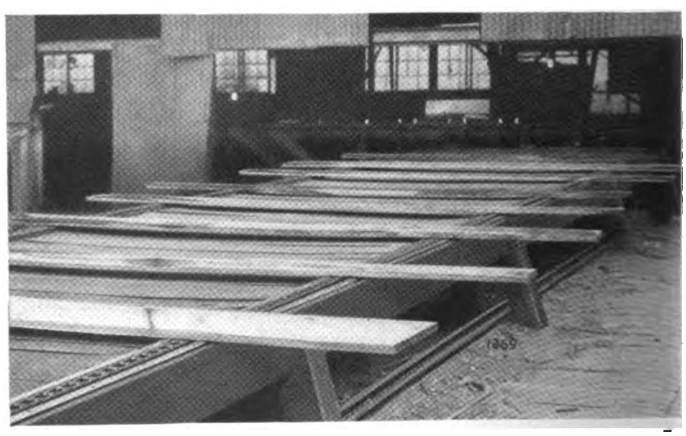


Jeffrey Lumber Conveyor as shown above is indispensable in lumber yard service for handling lumber to and from piles.



The left hand illustration shows a Jeffrey Lumber Conveyor consisting of slow moving chains with an alignment of spur attachments, which insures easy handling and a square cut-off.

Two or more strands of Plain Chain spaced far apart make an excellent carrier between mill and yard storage.

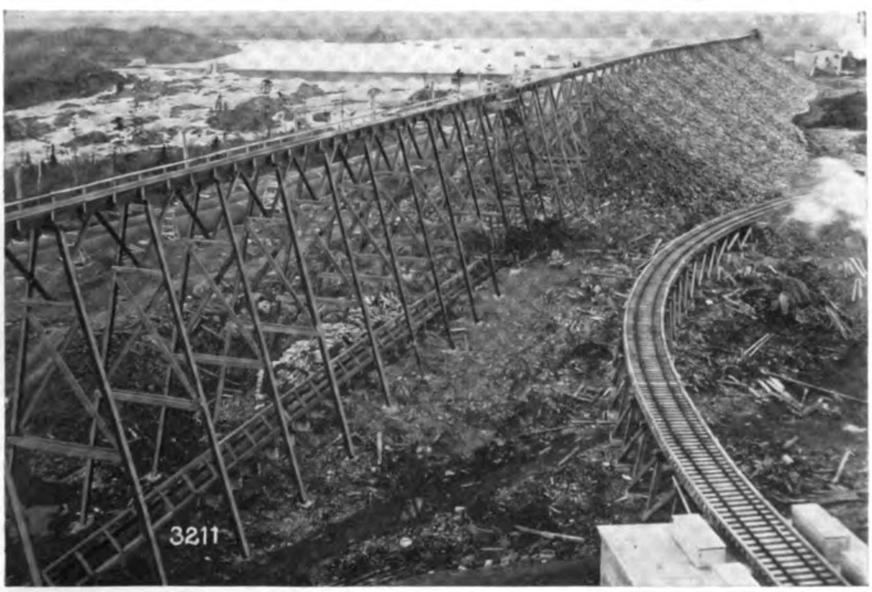


For Cable Conveyor details, see pages 333 to 342.

For chains, see pages 423 to 528.

Pulp and Paper Mill Equipment

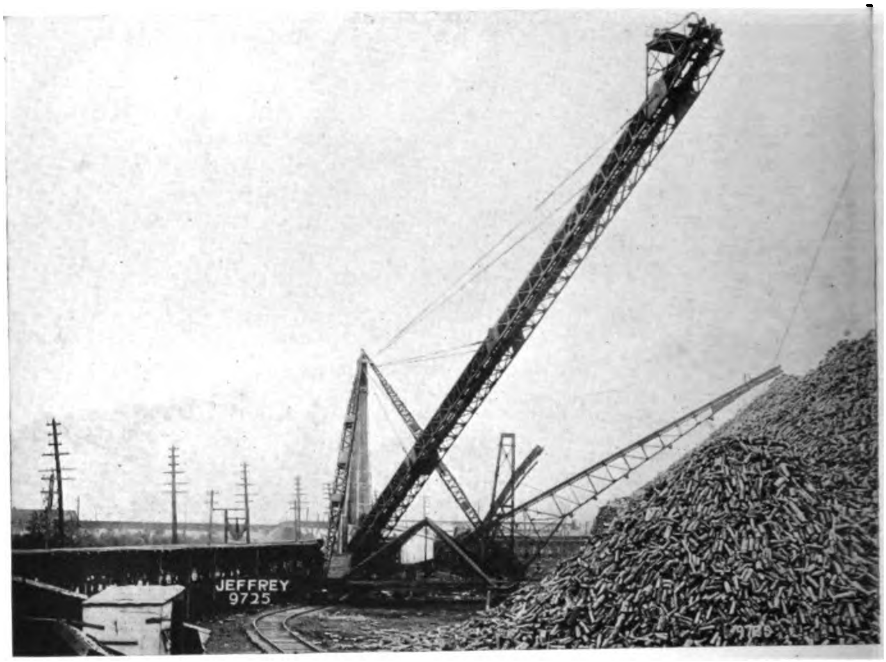
Jeffrey Cable Conveyor handling Pulpwood from storage to mill in the plant of a large Paper Manufacturing Company.



THE Cable Conveyor has quite an extensive application in the carrying of pulp wood and when used in connection with a portable stacker as shown on following page, assures a maximum of yard storage space being utilized.

For Cable Conveyor details, see pages 333 to 342.

Pulp and Paper Mill Equipment



The Jeffrey Pulpwood Stacker shown in the right hand illustration, one of the largest stackers ever built, was designed to solve the problem of storing a certain quantity of two-foot pulpwood upon an area which was limited and rather irregular in shape. This Stacker piles to a height of over 90 feet and travels on a track 106 feet in length. The boom swivels thru an arc of 90 degrees, thus covering a larger area than possible by a rigid boom stacker.

Jeffrey Pulpwood Stackers are designed and built to suit various conditions and capacity requirements.

Another Jeffrey Pulpwood Stacker and Cable Conveyor handling pulpwood is shown in left hand illustration. Propelled along the track by its own power, this Stacker piles logs to a height of approximately 50 feet. Drop valves along the cable conveyor act as feeders when attached to the Stacker.

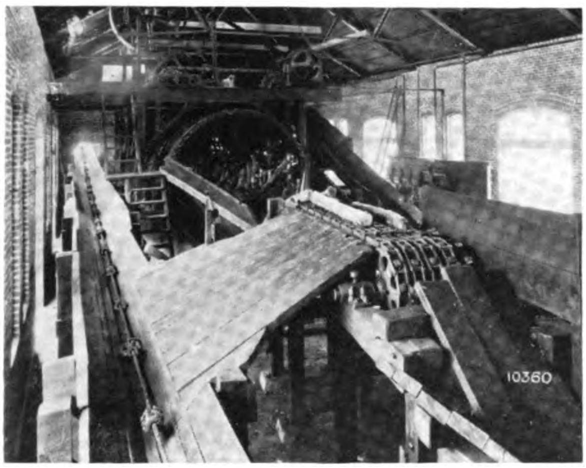
Head of a Jeffrey Pulpwood Stacker showing the walkway along side of Conveyor which facilitates inspection of Conveyor.

Jeffrey Pulpwood Stackers are of steel construction and designed to insure rigidity under all conditions.

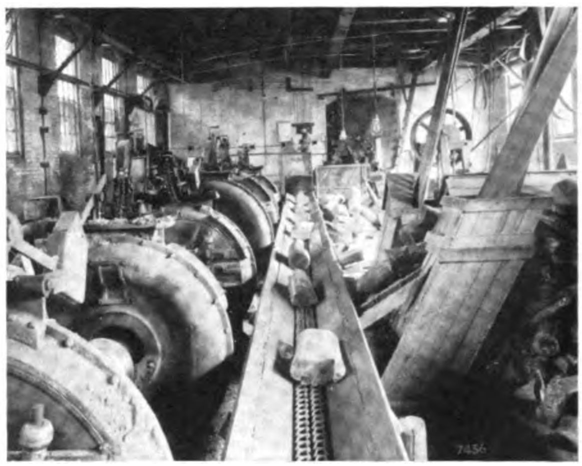
Pulp and Paper Mill Equipment

Jeffrey Inclined Conveyor handling Pulpwood from storage conveyor to mill. Made up of Hercules Chain with S Spur Attachment, see page 471.

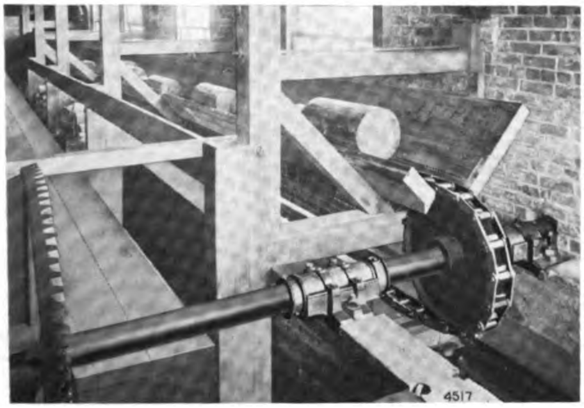
Detachable Chain with F-8 Attachments dragging Pulpwood from storage pile to paper mill. See page 432 for chain and attachments.



Jeffrey Chain and Cable Conveyors handling Pulpwood in slasher house of Pulp and Paper Mill.



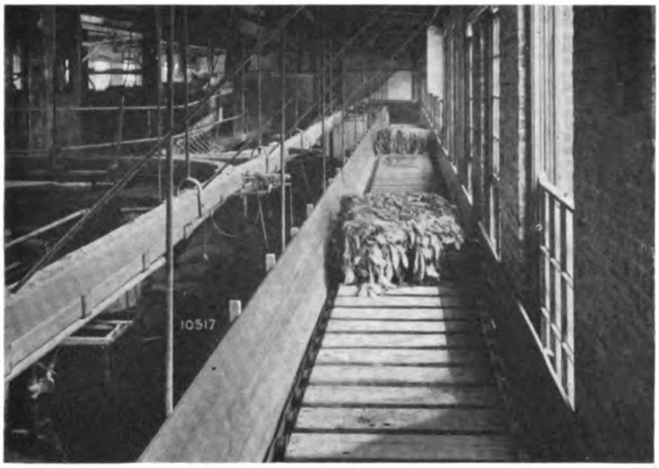
Two strands of Jeffrey Reliance Chain serving as a Conveyor in handling Pulpwood.



A single strand of Jeffrey Hercules Chain operating in a steel lined trough handling Pulpwood logs.

Jeffrey Endless Apron Conveyor handling logs to Barking Machines. For Detailed information on Apron Conveyors, see pages 161 to 194.

Pulp and Paper Mill Equipment



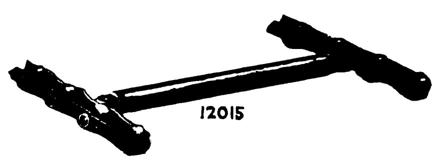
JEFFREY Wood Apron Conveyors have a broad application in the Pulp and Paper Mill Industry, especially in the handling of bales of rags, rolls of paper, etc as shown in the two accompanying illustrations.

Wood Apron Conveyors may be used on slight grades, or upon steep inclines by the use of wood blocks or cleats.

The Apron Conveyor shown at the right is adjustable to discharge rolls onto the first, second or third floors for storage.

For detailed information on Jeffrey Standard Wood Apron Conveyors, see pages 195 to 222.

Jeffrey Straw Board Conveyor consisting of a Scraper Conveyor with pipe flights attached to double strands of chain makes an ideal conveyor for the handling of straw in paper and strawboard mills.



Swivel Attachment with Pipe Flight

For complete information on this chain and attachments, see page 484.

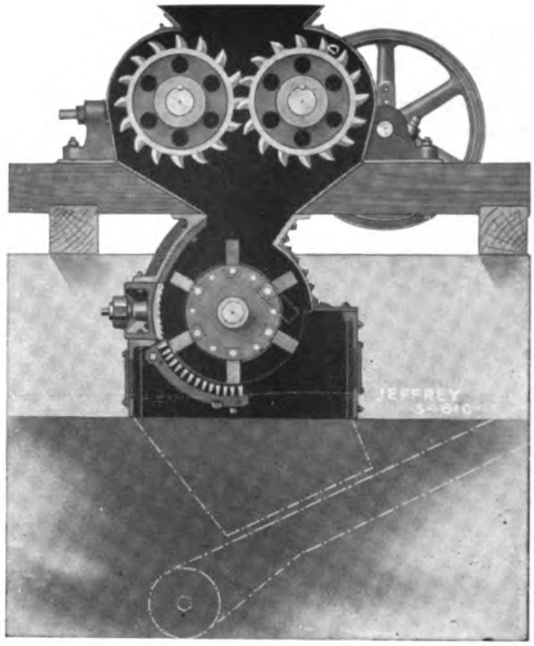
Pulp and Paper Mill Equipment

Pulp Lap Shredder

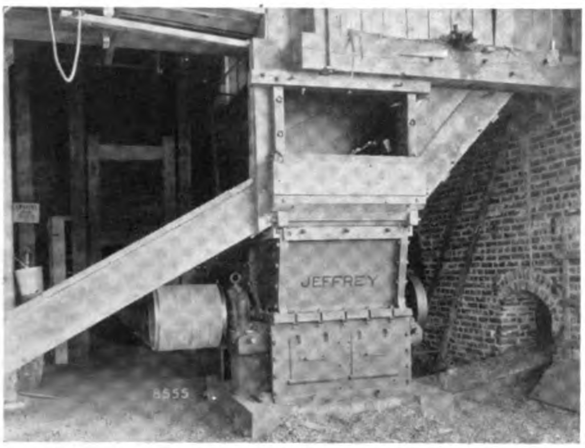
THIS Shredder consists of a combination of two machines placed one directly over the other as shown in the accompanying illustration, or at any distance apart in any convenient relative location.

The first machine is preliminary and consists of a pair of rolls provided with forged steel teeth. One roll runs many times faster than the other and tears the pulp lap into practically 4-inch squares.

The Second or Finishing Machine, which is simply a modification of our Type B Pulverizer, described on page 595 shreds the pieces into very small bits. The shredded pulp lap is then passed on to the beaters. The advantage of this machine is that it will make a fine smooth pulp with a great saving in labor and time.



Pulp Lap Shredder, handles dry or frozen pulp laps and saves the work of three beaters.

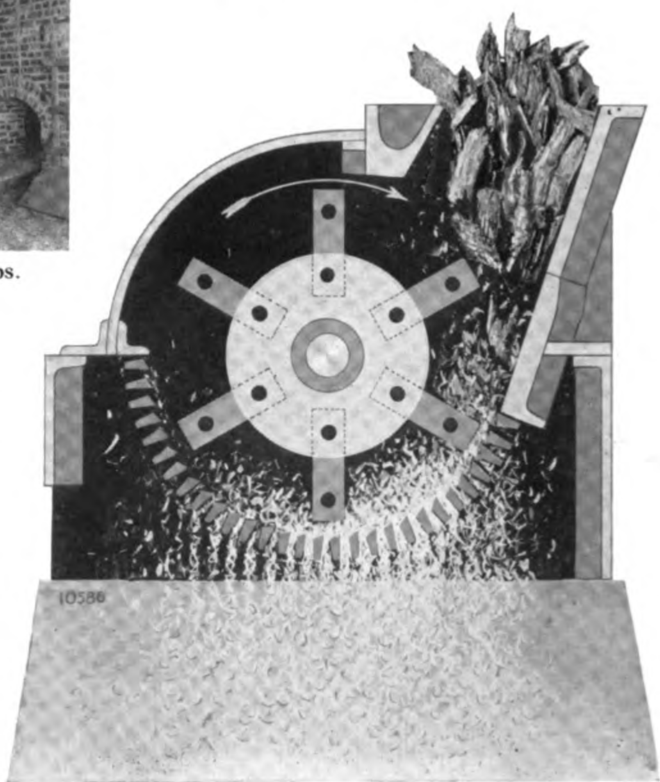


Type E Shredder, reducing chestnut chips.

Jeffrey Shredder for Chips, Bark and Wood Refuse

JEFFREY Shredders have a broad application in the shredding of many fibrous materials such as tan bark, chestnut wood chips, etc.

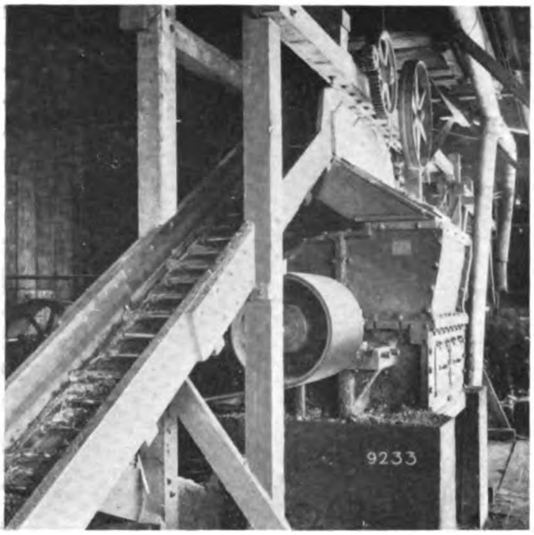
The cross section view of the Type A Shredder illustrated at the right shows how the hammers, acting in conjunction with the shredder bars, reduces the material into small bits in one operation.



Cross Section of Type A Shredder

For Detailed Information on Jeffrey Shredders, see pages 615 to 630.

Chip Conveyors



Jeffrey Malleable Drag Conveyor carrying chips from Hog to Shredder.

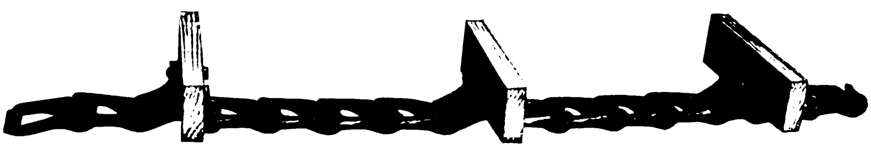
Flat and Round Link Chain Conveyor taking shredded chips to leach house.

THE illustrations below show various types of Jeffrey Conveyors for handling chips in connection with Shredders. A very desirable conveyor when not too long is made from Detachable Link Chain with wood flights bolted to attachments as shown in Fig. 1 below. A very serviceable chain for long conveyors is made from Flat and Round Welded Steel Link Chain as shown in Fig. 2. For handling the more irregular size of chips the Malleable Iron Drag Chain, Fig. 3, is ideal. This chain is also made with wing attachments which increase its carrying capacity.

Fig. 1. A general service Drag Conveyor for chips. Jeffrey Detachable Chain with F-2 attachments and wood flights. See page 432 for list of sizes and attachments.

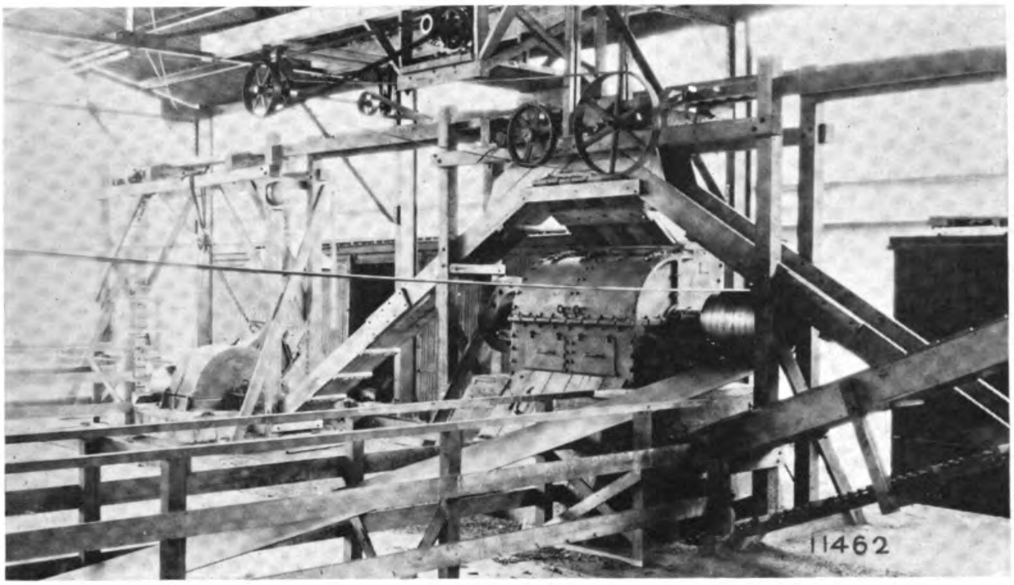
Fig. 2. An effective Pulpwood and Chip Conveyor made from Jeffrey Flat and Round Welded Steel Link Chain with wood flights. See page 517 for list of sizes and attachments.

Fig. 3. A very serviceable Malleable Iron Drag Chain Conveyor, excellent for hogged chips. Also made with wing attachments, see page 512.



Section of Jeffrey Detachable Chain and Wooden Flights used in scraper conveyor shown in Fig. 1 making the most practical form of scraper conveyor for the handling of wood chips. Other types and sizes of conveyors designed to suit special conditions upon request.

For Detailed Information on Standard Scraper Conveyors, see pages 269 to 332.



An excellent shredder installation showing arrangement of machinery and the easy access to all parts.

A Modern Shredding Installation

THIS is a typical installation of a Jeffrey Shredder and similar to the arrangement shown below, for reducing chestnut chips. A hog is located on each side of the machine. The chips from both hogs are carried up and dumped into the maw of the shredder by the inclined conveyors shown. The shredder reduces the chips to a fine uniform product, which is then taken to the leaches by additional conveyors.

Reducing and handling chips by this method has proven to be the most satisfactory to the extract companies. Note the desirable feature of having all of the machinery in the open where it can receive proper attention, thus avoiding the many unnecessary delays and shut downs which might otherwise happen.

For Detailed Information on Jeffrey Shredders, see pages 615 to 630.

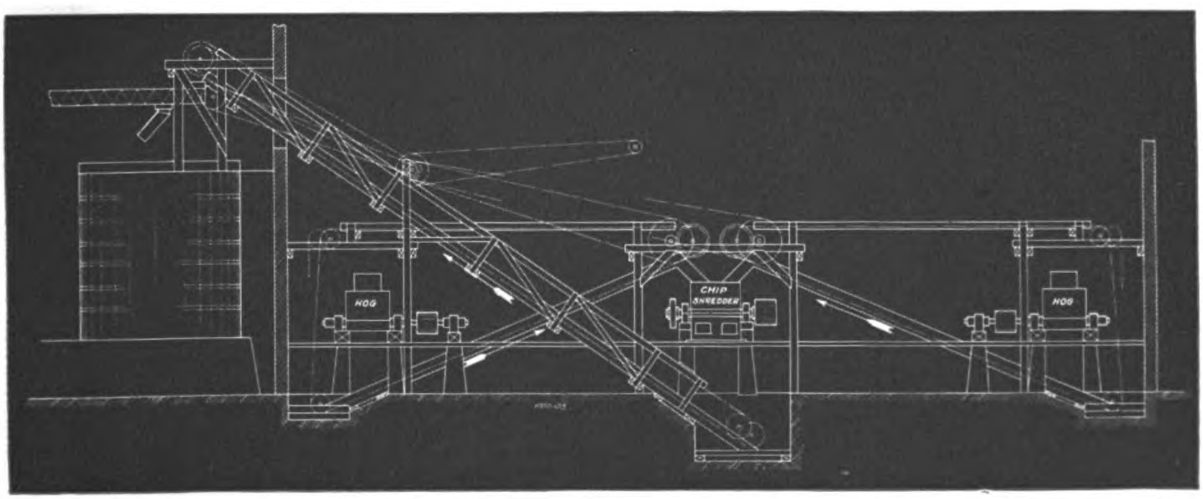


Diagram drawing showing an economical and desirable arrangement for Shredder installation.

Locomotives for Handling Lumber and Pulpwood

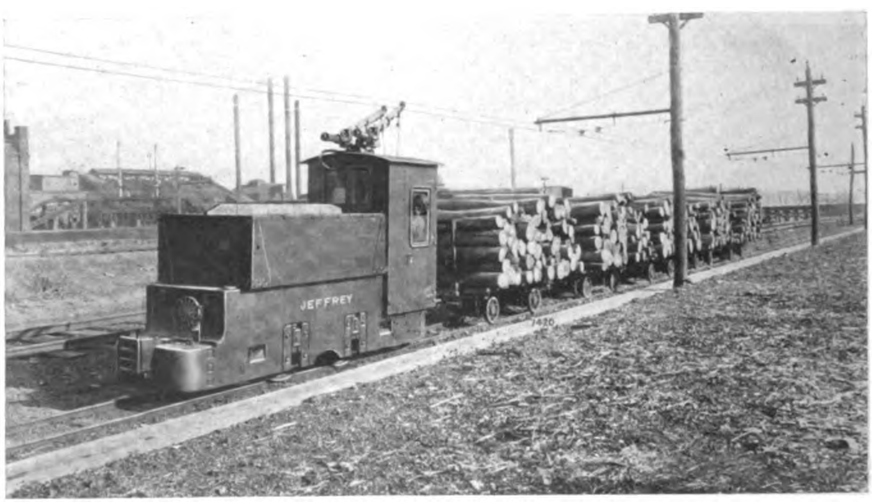
JEFFREY Storage Battery Locomotives offer an economical, efficient and practical haulage system in both Lumber Mills and Pulp and Paper Mills. This type of Haulage Locomotive eliminates the hazard of fire from flying sparks, wires and other live electrical equipment which could cause thousands of dollars loss through fire.

Many Mills have effected substantial savings through the use of Jeffrey Locomotives, which have proven themselves ideally adapted to this class of service.

The Battery Capacity of the locomotive shown at left is 63 A-10 Edison Cells having a capacity of 28 Kilowatt hours. It is capable of hauling 240 ton miles on level track on a single charge.

The combination Trolley and Storage Battery Locomotive shown in the right hand illustration is especially adapted to the handling of pulp wood. Seven or eight loaded cars, containing from fifty to sixty pulp wood logs can be hauled in a single trip. Storage batteries are used when hauling in the storage yard, and the trolley when hauling a distance of a mile or so from the barges to the yard.

For Detailed Information on Jeffrey Locomotives, see pages 631 to 638.

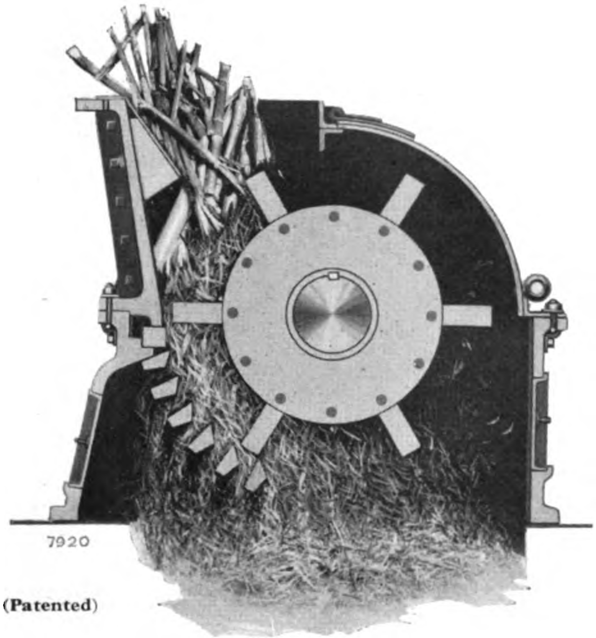


Sugar Mill Machinery

Section 3

Sugar Mill Machinery

Jeffrey Searby Cane Shredder Used for the Searby System of Milling Sugar Cane



(Patented)

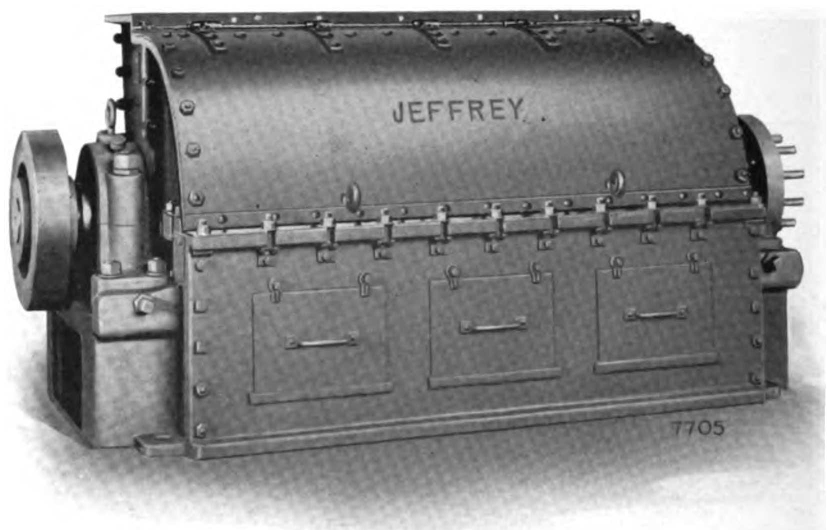
Sectional View through Jeffrey-Searby Cane Shredder.

THE Searby system of shredding sugar cane increases the extraction of sucrose and the capacity of the milling plant. It makes possible that higher milling efficiency always desired by producers.

By the use of the Searby system, the cane is torn into a fine hair-like fibrous mass, breaking up the juice-bearing cells in the outer rind as well as the interior of the stalks. All of the juice-bearing cells are thus exposed to the pressing action of the milling rolls and the diluting effect of the maceration water.

Shredding the sugar cane increases extraction by preparing the cane for the mills in such form that they operate at maximum efficiency in the extraction of juice.

The cane enters the shredder through the feed opening at the top of the machine, thus coming in contact with the revolving cylinder formed by the discs and hammers. In coming in contact with the hammers the cane is instantly torn into shreds and the disintegrated fibre passes out between the bars.

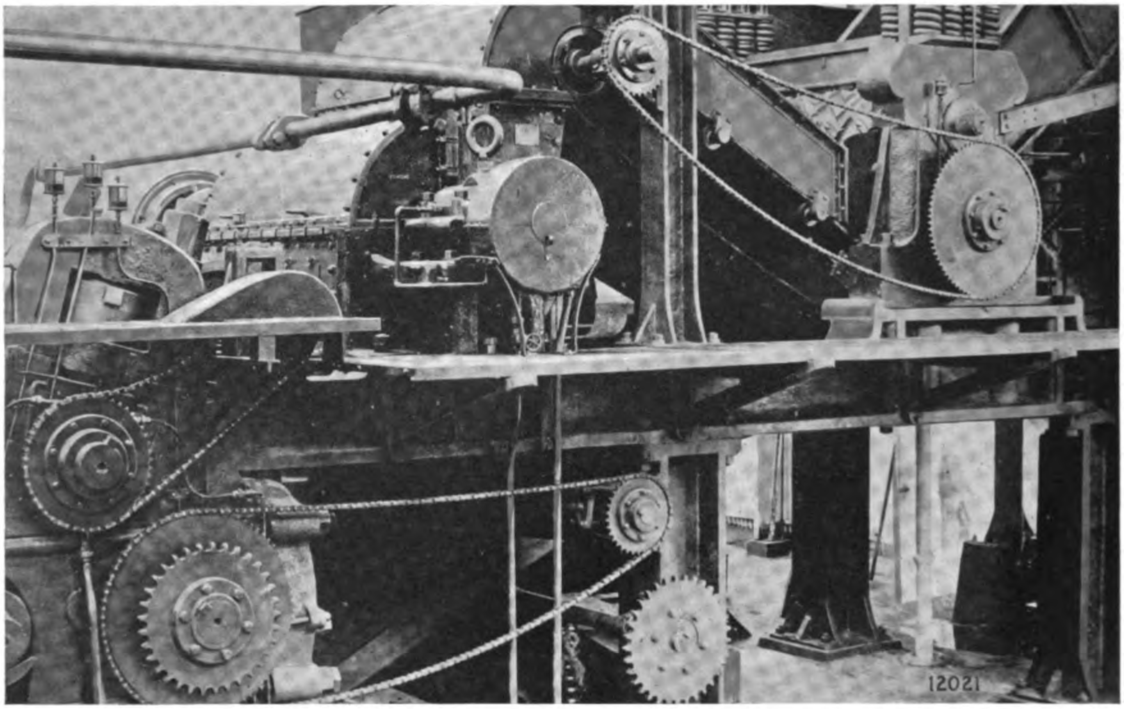


Capacities and Power Requirements for Various Sizes of Cane Shredders

Size	Horse Power	Capacity Tons per Hour
42"x84"	350	100 to 125
42"x72"	300	75 to 100
42"x54"	250	50 to 70
42"x42"	200	35 to 50
42"x36"	175	20 to 35

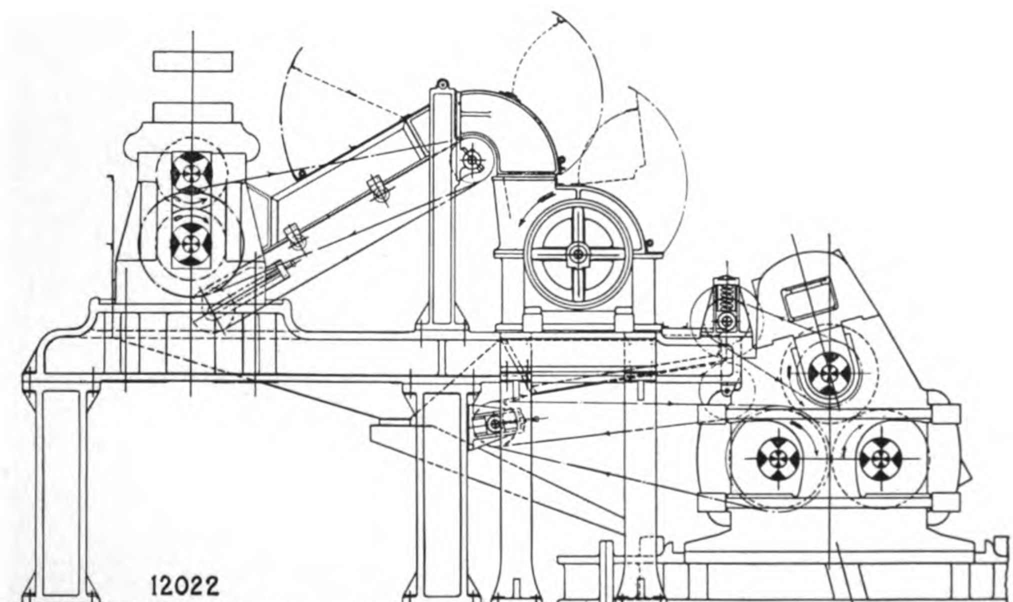
To get best results from the shredders listed they should run at a speed of about 1200 R. P. M. when working under load.

Sugar Mill Machinery



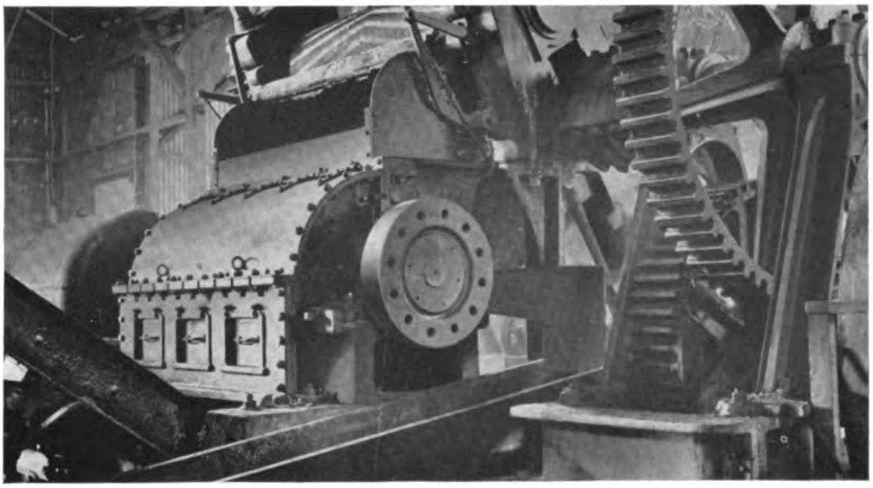
Installation of a Jeffrey-Searby Shredder driven by Electric Motor.

THE illustration and line drawing show an installation in which the cane first passes through the crusher and is delivered to the Jeffrey-Searby Shredder by a short conveyor, after which the shredded cane is delivered to the first mill. When the shredded cane reaches the first mill, it is so thoroughly disintegrated that it is impossible to distinguish the rind from the center portion, thus requiring only the pressing action of the rolls.



General Layout of above Installation.

Sugar Mill Machinery

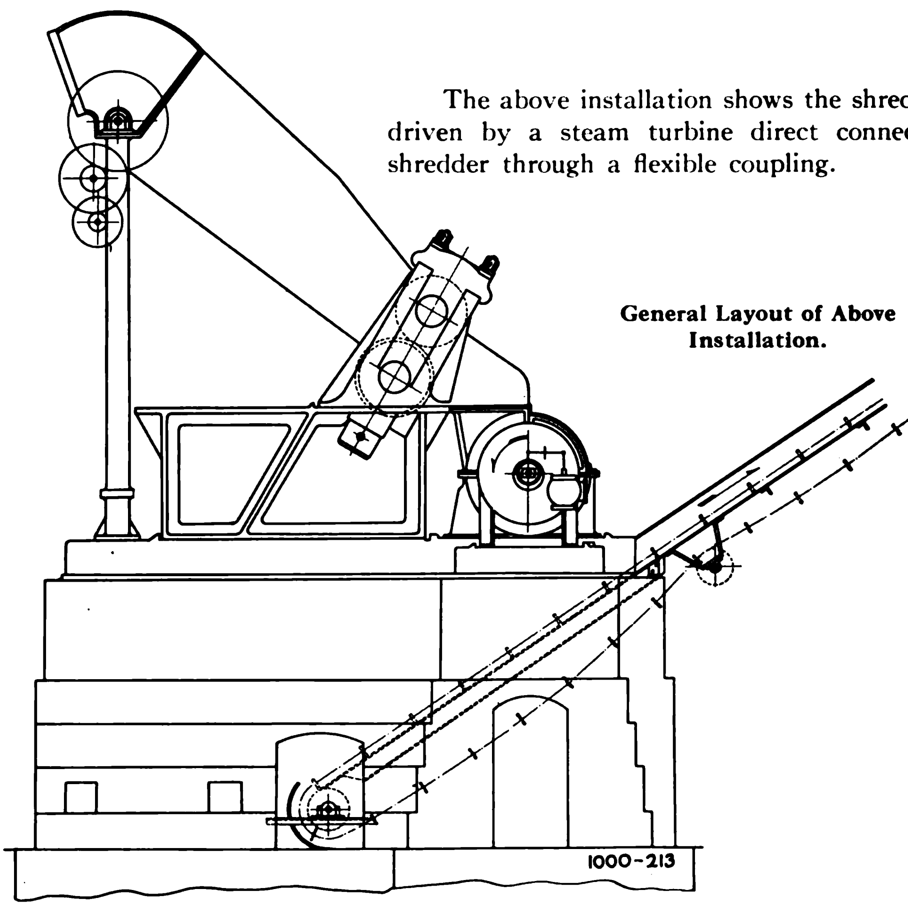


Installation of the Searby System in a Louisiana Sugar Mill.

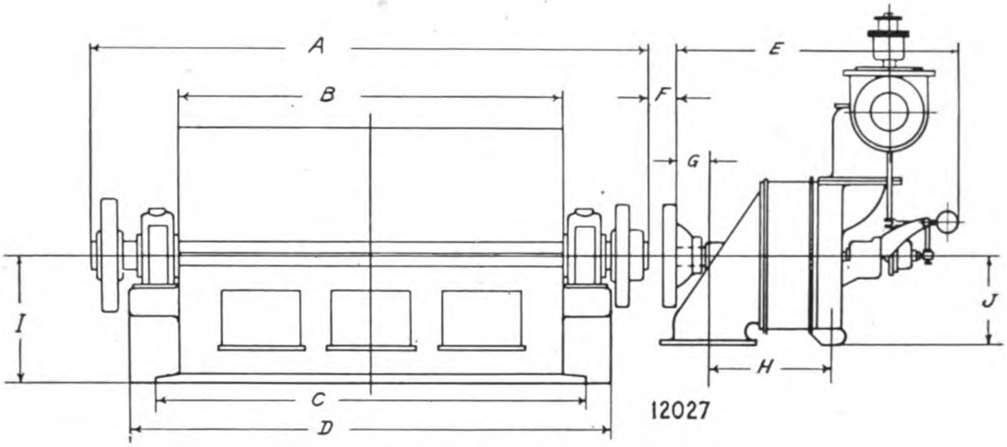
A Typical Shredder Installation

THE illustration and outline drawing show an installation where the cane passes thru the crusher and then discharges by gravity into the Jeffrey-Searby cane shredder. The shredded cane is then delivered from the shredder to the pressing rolls.

The above installation shows the shredder being driven by a steam turbine direct connected to a shredder through a flexible coupling.



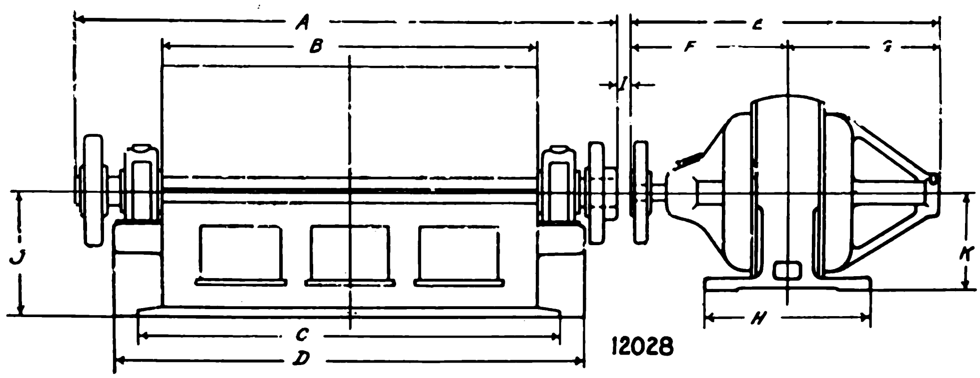
General Layout of Above Installation.



Turbine Driven Shredder

Size of Shredder	H.P. of Turbine	Type	A	B	C	D	E	F	G	H	I	J
42"x54"	200	Ball Bearing	8'- 5"	5'- 2"	5'-10"	7'-3"	5'-0⅝"	7¼"	6⅝"	2'-2 7/16"	2'-1"	19"
42"x54"	200	Pillow Block Bearing	11'- 1"	5'- 2"	5'-10"	7'-8"	5'-0⅝"	7¼"	6⅝"	2'-2 7/16"	2'-1"	19"
42"x72"	300	Ball Bearing	9'-11"	6'-10"	7'- 8"	8'-7"	5'-0⅝"	5¾"	6⅝"	2'-2 7/16"	2'-3"	19"
42"x72"	300	Pillow Block Bearing	13'- 9"	6'-10"	7'- 8"	10'-4"	5'-0⅝"	5¾"	6⅝"	2'-2 7/16"	2'-3"	19"

Dimensions are approximate only—Not to be used for construction.



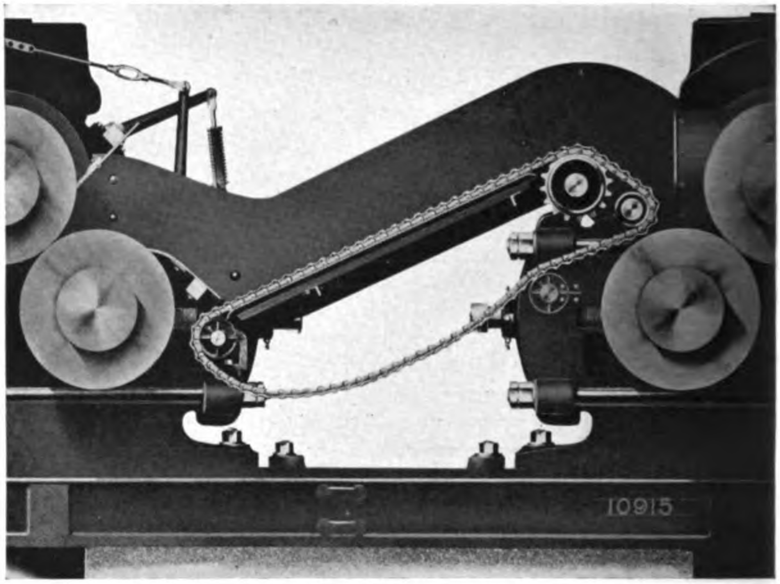
Motor Driven Shredder

Size of Shredder	H.P. of Motor	Type	A	B	C	D	E	F	G	H	I	J	K
42"x54"	200	Ball Bearing	8'- 5"	5'- 2"	5'-10"	7'-3"	5'-7⅝"	2'- 9 13/16"	2'-9 13/16"	2'-7"	2⅞"	2'-1"	16"
42"x54"	200	Pillow Block Bearing	11'- 1"	5'- 2"	5'-10"	7'-8"	5'-7⅝"	2'- 9 13/16"	2'-9 13/16"	2'-7"	2⅞"	2'-1"	16"
42"x72"	300	Ball Bearing	9'-11"	6'-10"	7'- 8"	8'-7"	5'-8 1/16"	2'-10 9/16"	2'-9½"	3'-1"	2⅞"	2'-3"	21"
42"x72"	300	Pillow Block Bearing	13'- 9"	6'-10"	7'- 8"	10'-4"	5'-8 1/16"	2'-10 9/16"	2'-9½"	3'-1"	2⅞"	2'-3"	21"

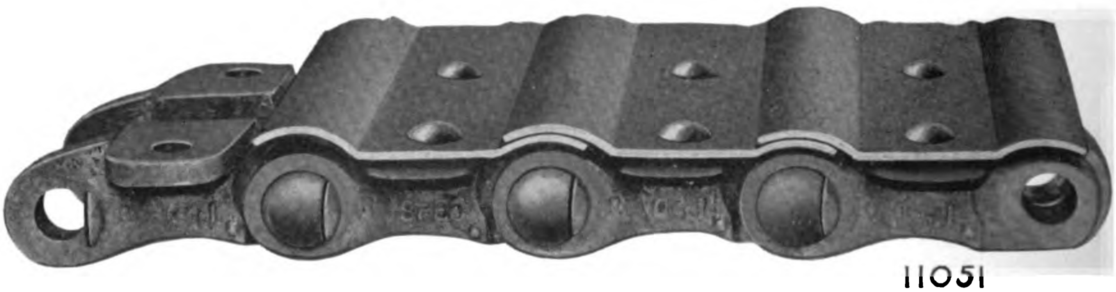
Dimensions are approximate only—Not to be used for construction.

Sugar Mill Machinery

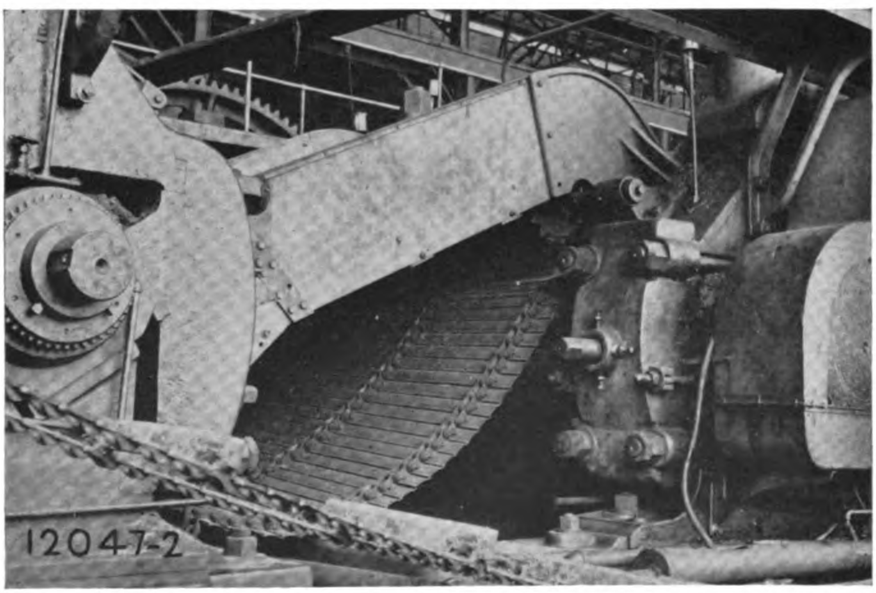
AS an intermediate carrier from mill to mill the Number 1½ Malleable Roller Chain with its heavy double beaded steel flights is daily giving satisfaction at many places where uninterrupted service must be maintained.



Intermediate Cane Carrier between sets of mill rolls.



Number 1½ Chain with double beaded steel flights used on the Intermediate Carrier.

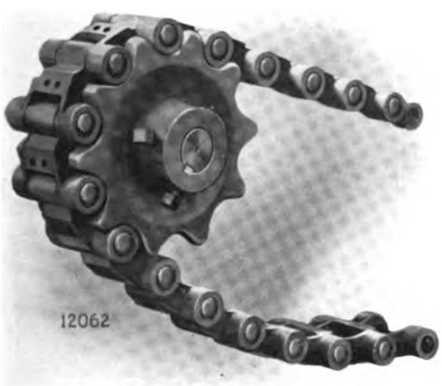


An Installation of Jeffrey 1½ Roller Chain for Intermediate Carrier in one of the Cuban Sugar Mills.

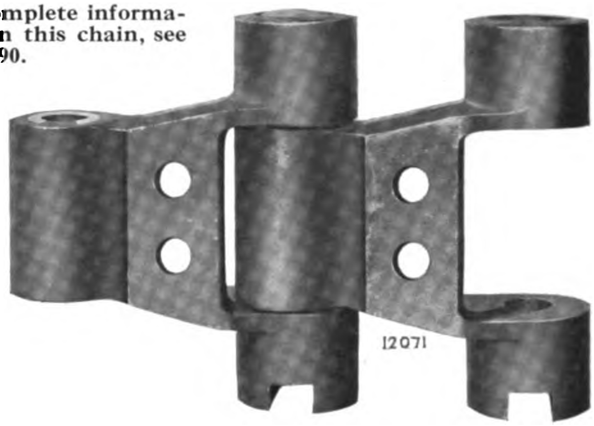
General dimensions of Jeffrey 1½ Malleable Roller Chain together with other information relating to speeds, working strengths, different types of attachments, etc., given on page 489.

Sugar Mill Machinery

Jeffrey No. 1090 Steel Bushed Chain for Intermediate Carriers



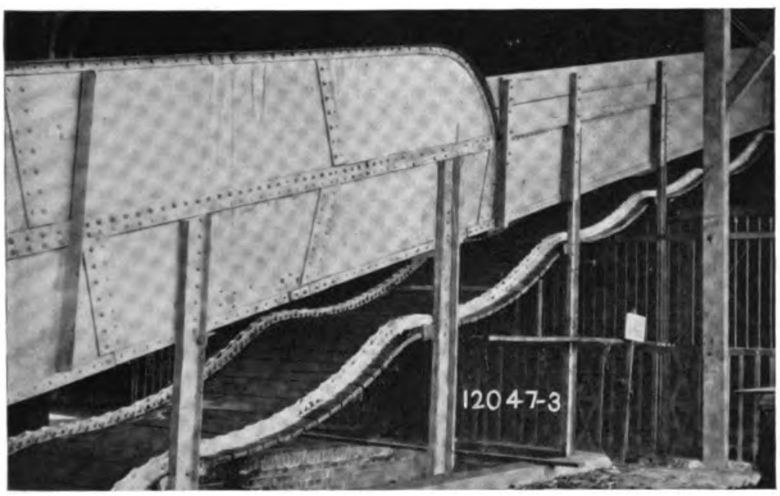
For complete information on this chain, see page 490.



Jeffrey No. 1090 Chain is designed to work with drive sprockets in pairs placed on the outside of the link which permits any material on the chain to squeeze out in going over the sprockets instead of packing under the flights.

No. 1090 Chain is 2.98 inch pitch with a working strength of 3,000 lbs. and a weight of approximately 11.5 lbs. per foot, and is interchangeable with 1½ roller chain. The 1½ double beaded apron carrier flights are interchangeable except for rivet holes.

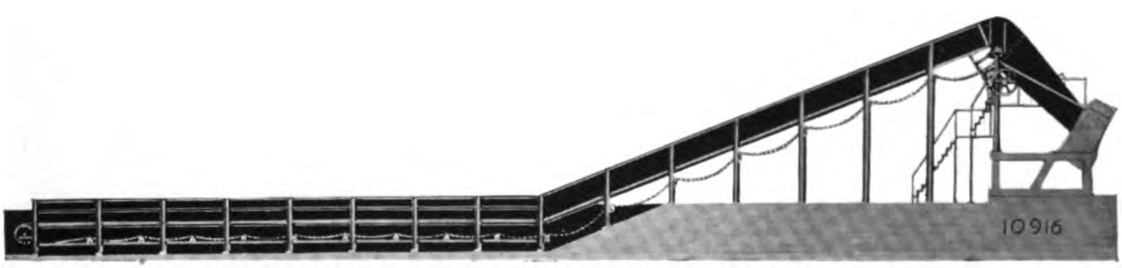
No. 1007 Steel Thimble Roller Chain



Showing No. 1007 Chain used on Apron Conveyor Carrier in a large Cuban Sugar Mill.

IN the handling of sugar cane, conveying apparatus is undoubtedly next in importance to the proper milling of the cane.

In the first step of carrying cane to the crusher, the No. 1007 Carrier Chain, as a part of the feeding apron, is excellent as established from its many years of satisfactory service at that place in the sugar mill.



Apron Carrier for sugar cane from cars to crusher.

Sugar Mill Machinery

DIMENSIONS

Pitch, 6 inches.

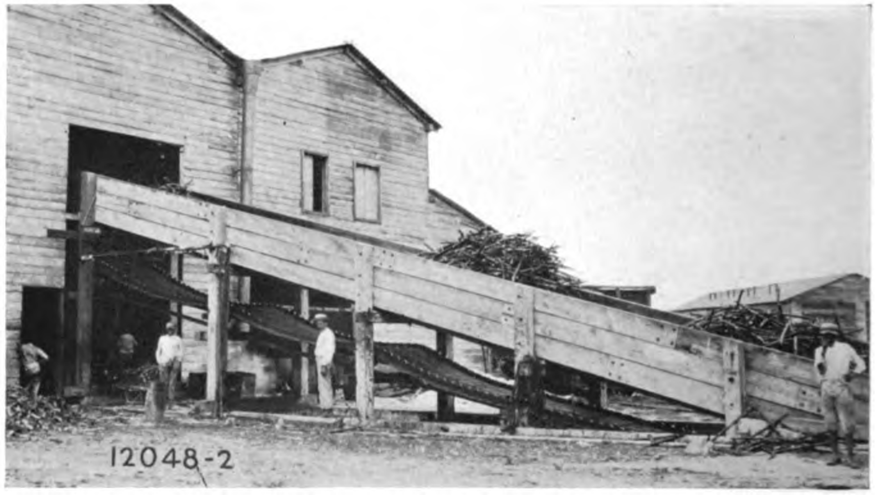
Approx. Wgt. per ft. 13.5 lbs.

Working Strength at 150 ft. per min., 5200 lbs.

Max. Speed, 400 ft. per min.

Works on 1007 Sprocket.

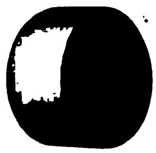
See page 501.



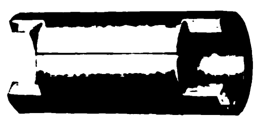
Cuban Sugar Mill showing Cane Carrier equipped with No. 1007 Steel Thimble Roller Chain.

Jeffrey 1007 Steel Thimble Roller Carrier Chain, Square Shank Pin Type—For Heavy Duty

One of the Most Dependable Cane Carrier Chains Made —High-Grade Materials Throughout



Cast Roller with Machine Finished Bore



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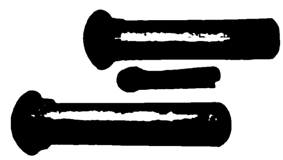
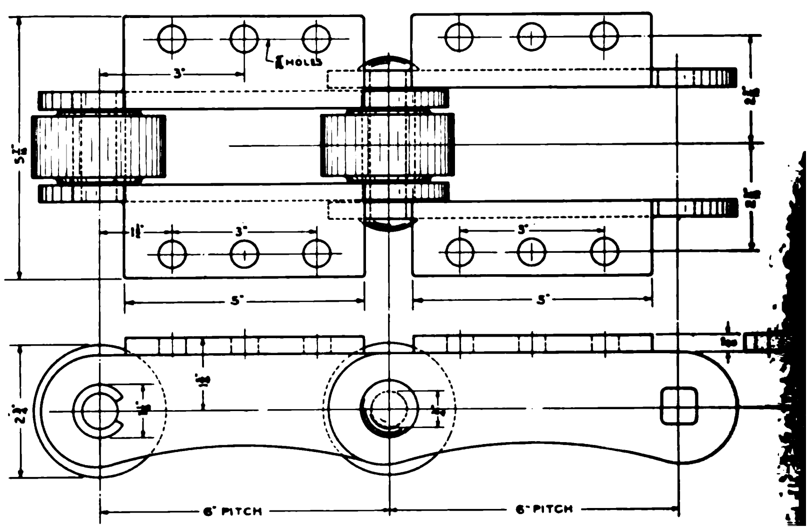
Hardened Renewable Steel Bushing



Square Shank Rivet and Coupling Pins



No. 1007 Chain may be ordered and work planned in accordance with dimensions given above. Attachments as shown stamped from steel plate may be placed on both sides as shown or on one side and at various intervals. Riveted Pins used unless otherwise specified. Coupling Pins used to connect sections.

Jeffrey Scraper Conveyor handling Bagasse from mill to furnaces.

IN the handling of bagasse from the crusher rolls to the furnaces, scraper conveyors have proved in many outfits to be the conveying means best fitted to the purpose by properly receiving and making delivery of the bagasse to the furnaces.

The Scraper Conveyor is used not only as the main conveyor to the furnaces but short feeder conveyors of the same type are sometimes installed to feed the main conveyor.

Usually the Malleable Roller type of Chain is used, that type being amply strong and comparatively low in cost with the added advantage of low operating friction.

The Scraper Conveyor usually carries on the lower strand discharging through valves in the trough bottom to chutes directly over the furnaces. For detailed information on Jeffrey Scraper Conveyors, see pages 269 to 332.

Scraper Conveyor Feeder for bagasse from cane mill to main conveyor, is shown in the left hand illustration.

Right hand illustration shows the delivery end of the above conveyor where the bagasse is discharged into chutes to furnaces.

Sugar Mill Machinery

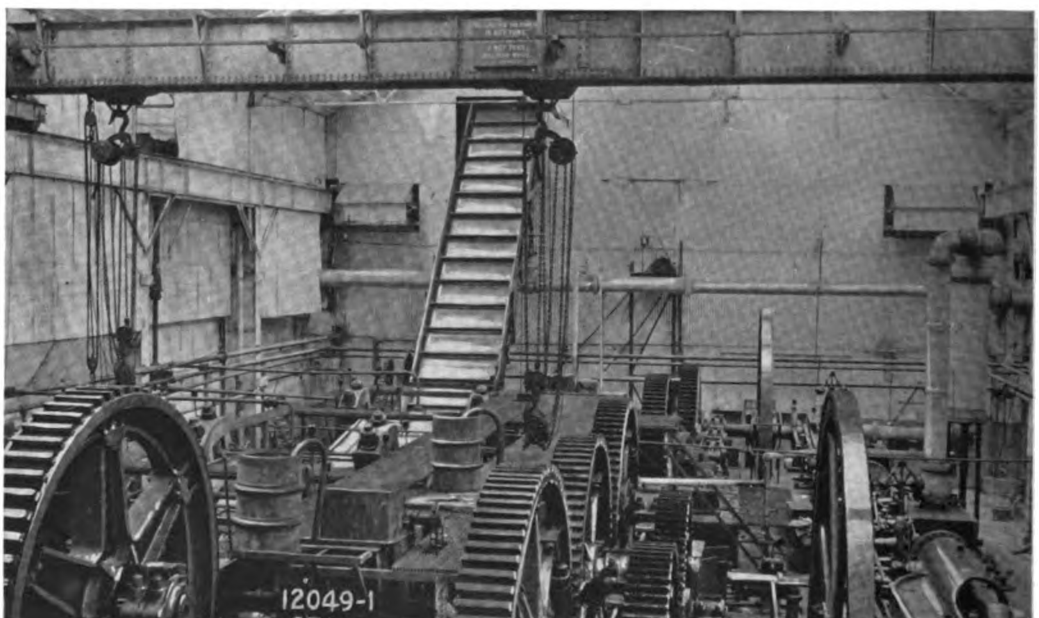
Bagasse Conveyor at storage discharge point. Note the arrangement of conveyor for reclaiming the bagasse.

Sectional View of Double Strand Roller Chain and Steel Flights.

Sectional View of Double Strand Roller Chain and Wood Flights.

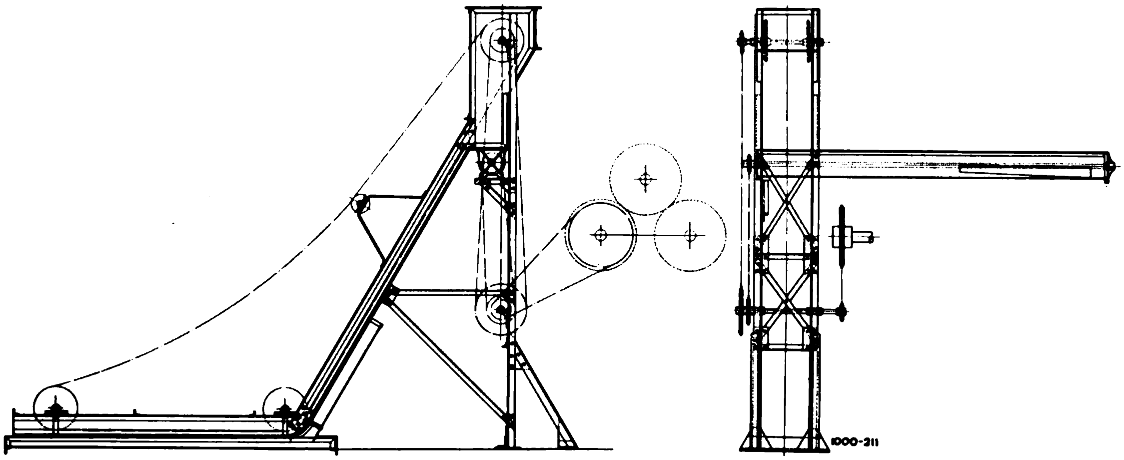
For more detailed information on Jeffrey Scraper Conveyors, see pages 269 to 332.

THE same conveyor that carries the bagasse from the mills to the boilers, serves as a storage conveyor as well as a means of reclaiming the bagasse from the storage supply.

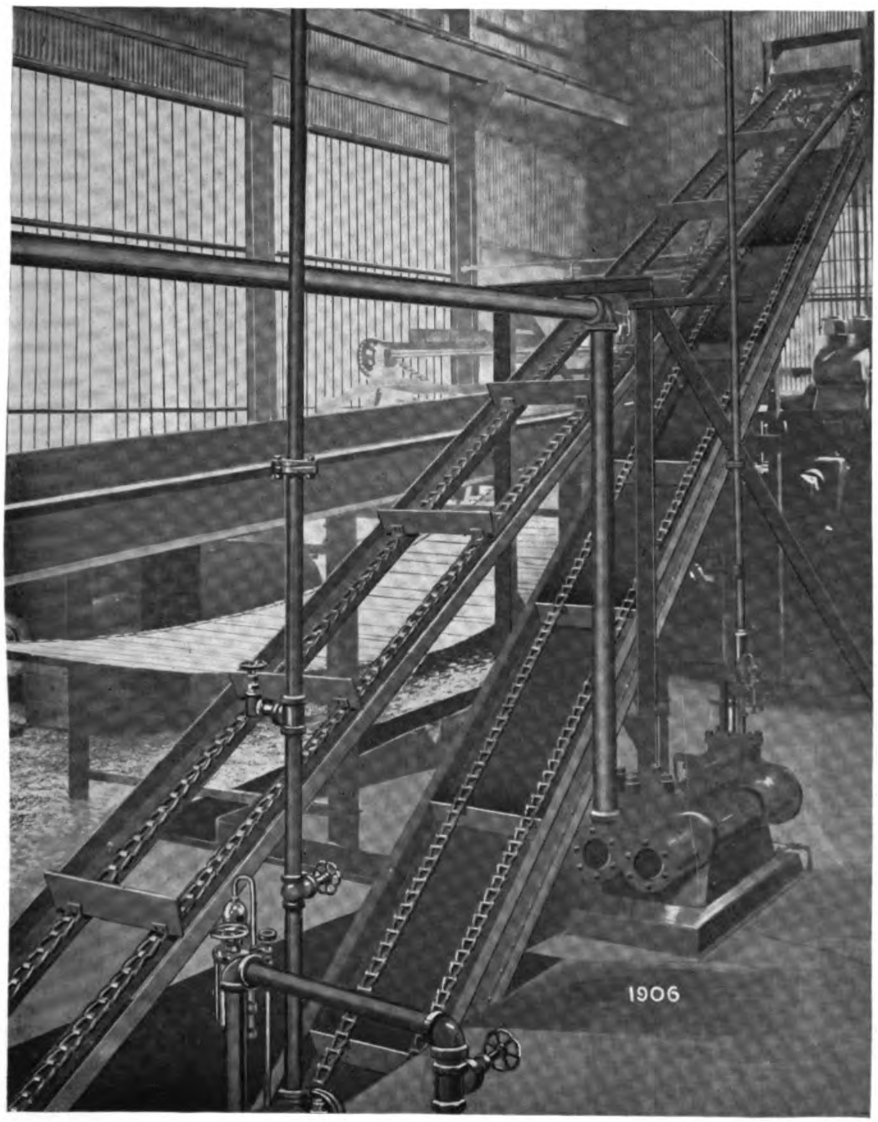


A Bagasse Conveyor which also serves as an Elevator delivering and distributing the bagasse to a battery of boilers.

Sugar Mill Machinery



Line drawing of Juice Strainer Conveyor shown here.

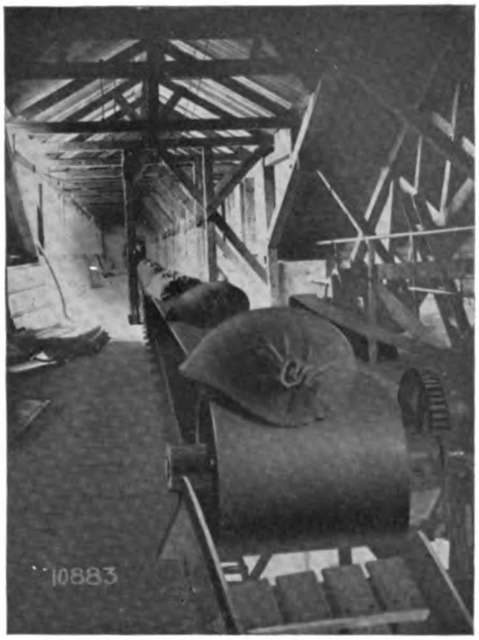


The Jeffrey Juice Strainer Trough and Conveyor is of simple construction, the conveyor being very effective for removing the trash from off the strainer.

The conveyor is made up of double strand chain with flights at intervals. The scraping edge of the flights is fitted with a hard rubber which prevents injury to strainer.

Left hand illustration shows a Jeffrey Juice Strainer Conveyor as installed in a Sugar Mill.

Sugar Mill Machinery



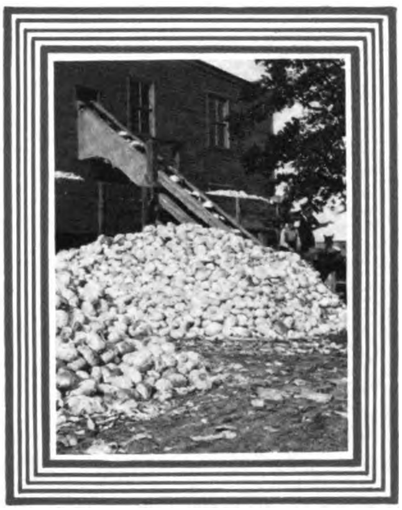
Jeffrey Flat Belt Conveyor handling bags. For detailed information on Belt Conveyors, see pages 223 to 268.

Jeffrey Wood Apron Conveyors have proven themselves a great factor in the handling of sacks of sugar both in and out of warehouse. See pages 195 to 222 for complete information on Jeffrey Standard Wood Apron Conveyors.

Jeffrey Tray Elevators for the handling of Bags, Barrels, Boxes, etc., as shown below, are completely illustrated and described on pages 399 to 406.

The illustration above shows a Jeffrey Portable Stacker piling bags in a warehouse. This stacker is also designed to handle boxes, cartons and such other material usually stacked in tiers. It is also used for breaking down the piles or for loading onto shipping platforms and into cars. For complete information on this and other types of Jeffrey Portable Stackers, see pages 420 and 421.

Conveying Equipments *for* Canneries



Section 4

Conveying Equipment for Canneries

Peeling Table

By the use of a Jeffrey Binless Peeling Table it is impossible for the peelers to waste the soft or under-size fruit, as an inspector handles not only the peeled fruit but the trimmings as well.

Each peeling compartment is separate, thus eliminating confusion among employees. All peeled fruit can be inspected thoroughly and operators paid accordingly. Employees become better satisfied and add to their earnings.

The Jeffrey Binless Peeling Table is absolutely sanitary, all tomatoes being handled in enamel pans and peeled direct into enamel pails.

The construction is entirely of metal, well balanced and braced to withstand severe strains and overload.

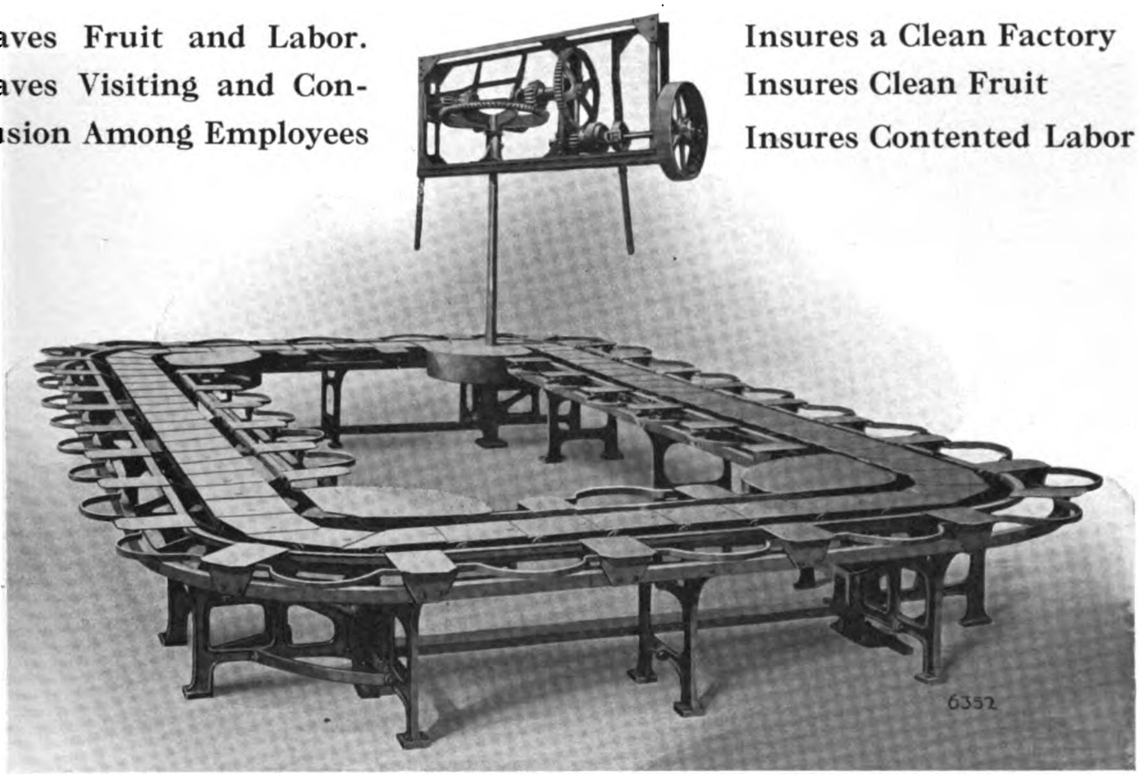
Operates in either direction, and requires but little power.

Conveying Equipment for Canneries

Peeling Table

Saves Fruit and Labor.
Saves Visiting and Confusion Among Employees

Insures a Clean Factory
Insures Clean Fruit
Insures Contented Labor

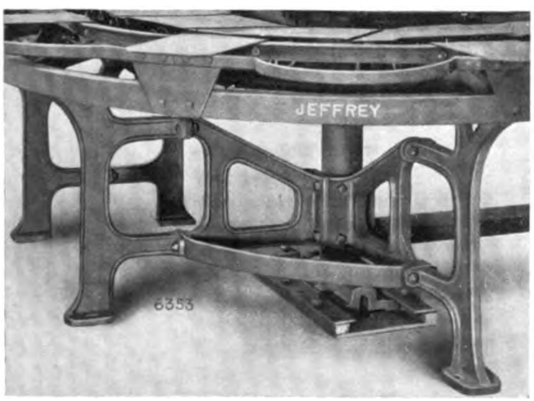


Jeffrey Binless Peeling Table, built in sizes to accommodate 44 to 400 peelers. Furnished with head drive frame complete with reverse gears, pulley and clutches. Each peeling compartment is separate, thus facilitating the handling of employees.

The operation of the Jeffrey Binless Peeling Table is very simple and efficient, consisting of an all steel run-around type of conveyor. Outside of this conveyor is a skeleton frame supporting graphitized pails and pans, which are numbered with operators and positions at the table to correspond.

Very little power is required to operate these tables, the horse-power ranging from 1 to 2½, depending on the size of the table.

The Jeffrey Peeling Table is sanitary in every respect. To clean the table, it is only necessary to remove all pails and pans, then turn on the steam and let it dry.



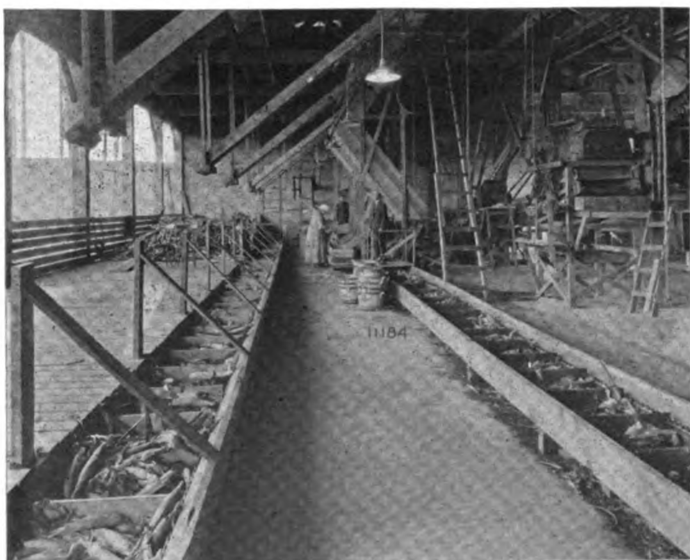
Note the rigid construction of the corner frame —no sills or floor obstruction are required. All parts are well protected, consequently there is no danger of accidents.

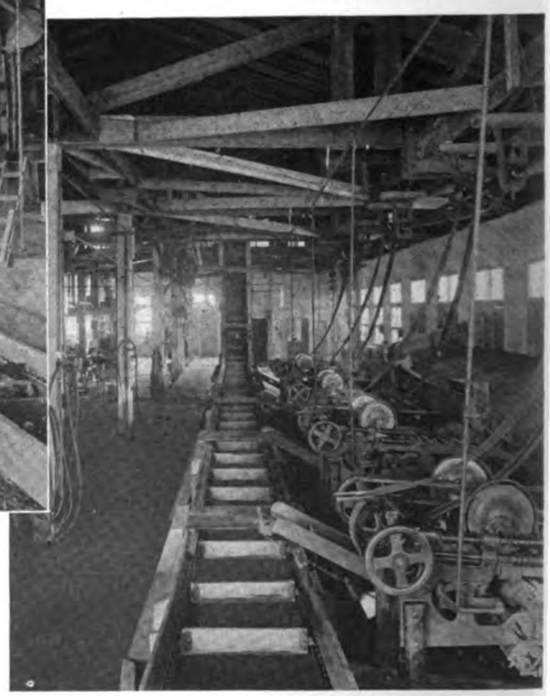
All receptacles for tomatoes and peelings are supported by skeleton frames and can be removed and stacked when washing the table.

Conveying Equipment for Canneries

Scraper Conveyors

Jeffrey Scraper Conveyor as installed in a large Cannery for handling cabbage heads. The return strand carries refuse to outside bin as shown.





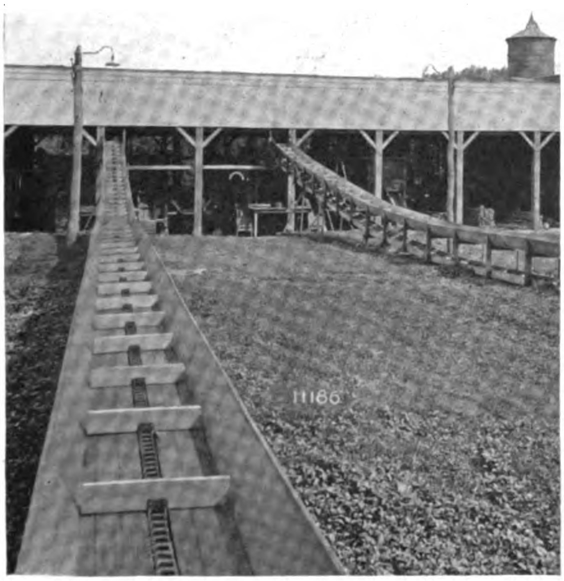
The simplicity and economy of the Scraper Conveyor ideally adapts it to the handling of many kinds of fruit and vegetables. This type of Conveyor may be used with either single or double strands of chain with wooden scrapers in wooden troughs.

For detailed information on Scraper Conveyors, see pages 269 to 332.

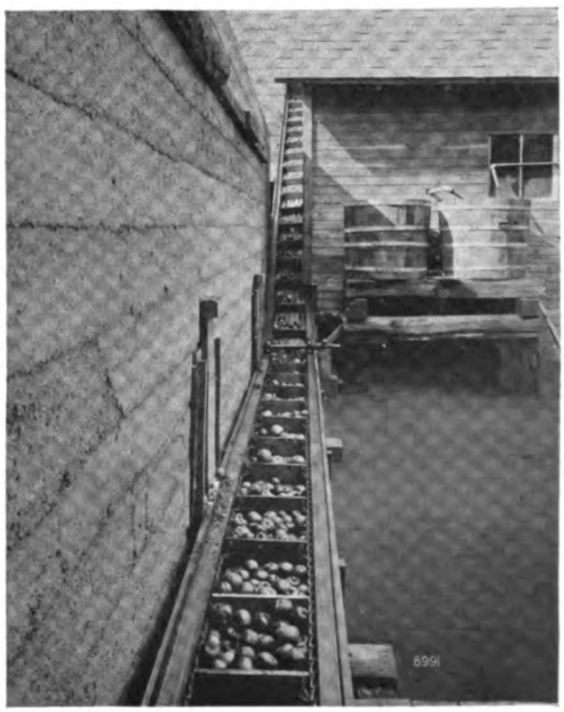
Conveying Equipment for Canneries

Scraper Conveyors

A Jeffrey Single Strand Scraper Conveyor installed to receive cabbage from wagons.



Another Jeffrey Single Strand Scraper Conveyor used for carrying corn to husking machines.



Jeffrey Double Strand Scraper Conveyor handling apples.

For detailed information on Scraper Conveyors, see pages 269 to 332.

Conveying Equipment for Canneries

Scraper Conveyors

Jeffrey Double Strand Scraper Conveyor operating in a large cannery. The lower run is used for carrying the corn from the husking machines, while the upper run of the conveyor carries the husks to the refuse pile.

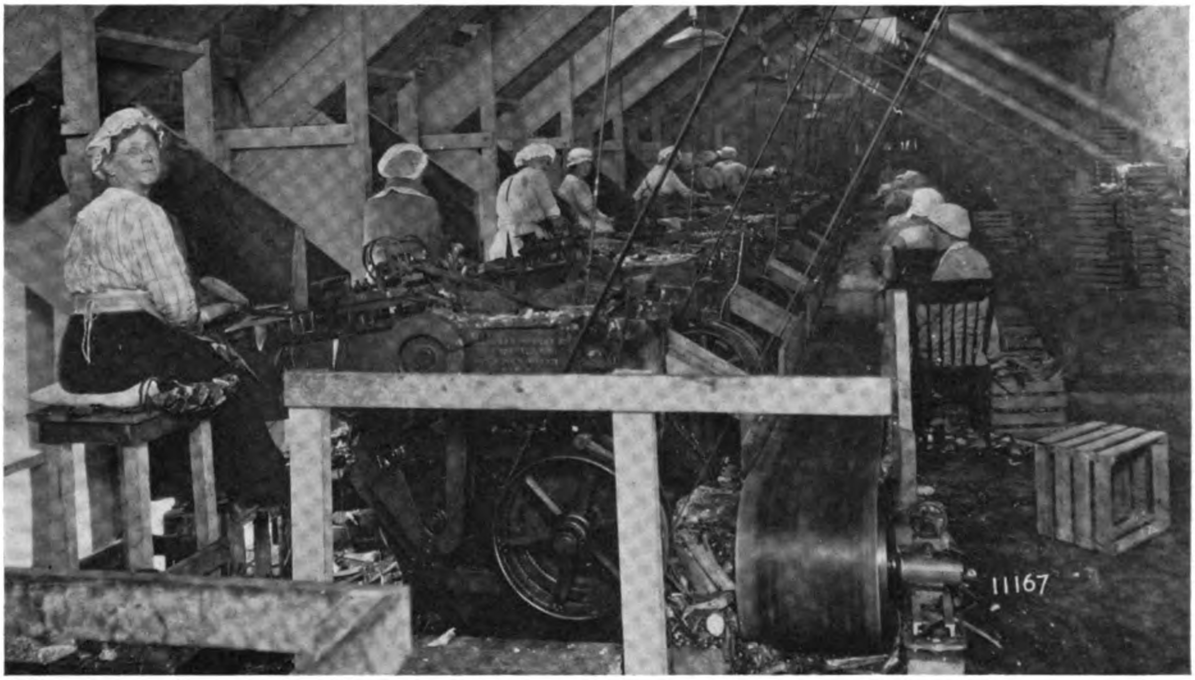
Showing the discharge end of the Jeffrey Scraper Conveyor described above, where the husks are carried to the refuse pile.

Another Jeffrey Double Strand Scraper Conveyor made up of Detachable Link Chain for carrying corn to silo.

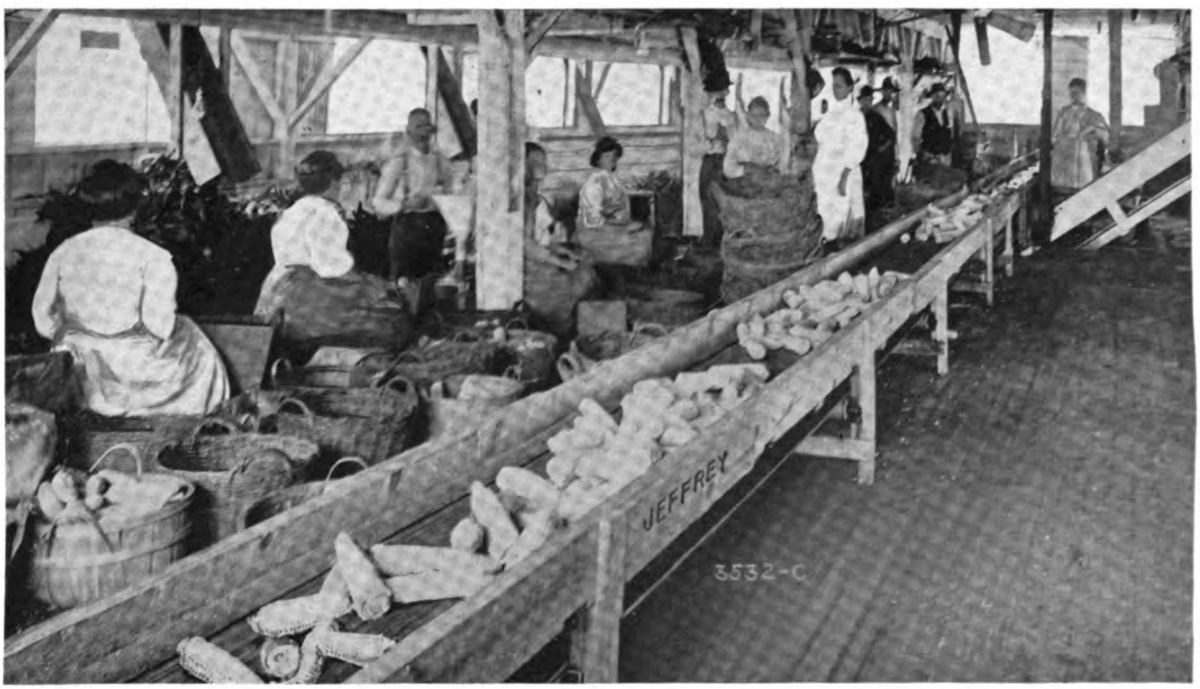
For detailed information on Scraper Conveyors, see pages 269 to 332.

Conveying Equipment for Canneries

Belt Conveyors



Jeffrey Rubber Belt Conveyor carrying corn from huskers. The belt conveyor, with its silent operation, readily lends itself to this class of service.

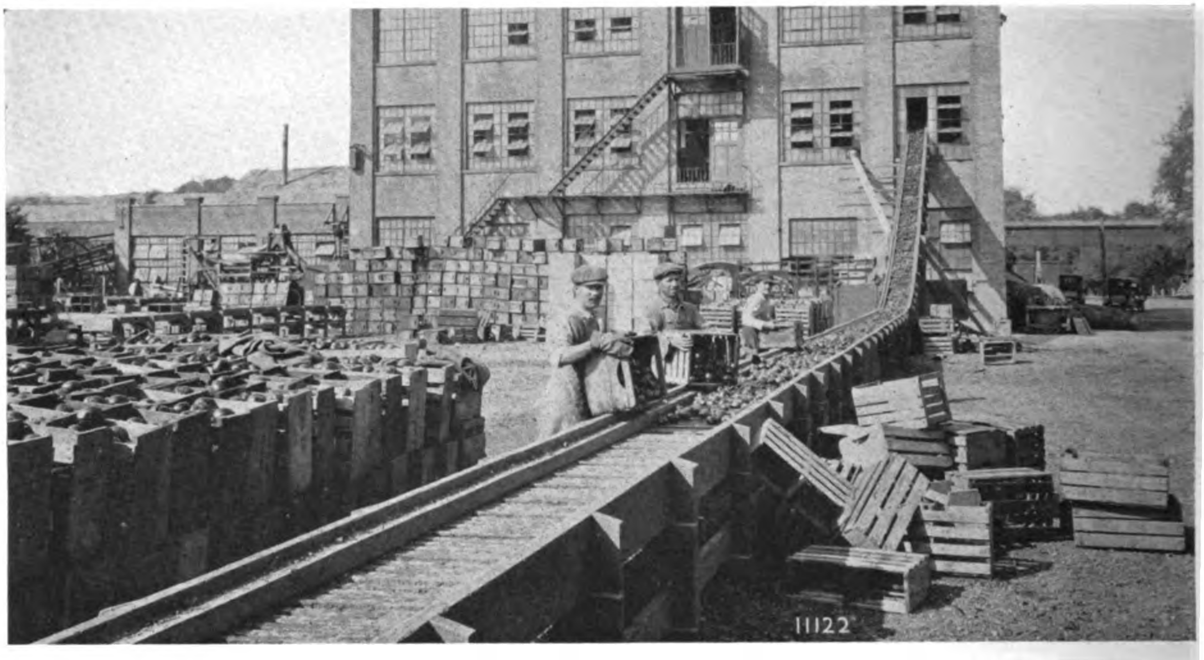


Another Jeffrey flat Belt Conveyor carrying corn in the husking shed of a large canning factory.

For detailed information on Belt Conveyors, see pages 223 to 268.

Conveying Equipment for Canneries

Apron Conveyors



Handling loose tomatoes with a Jeffrey Apron Conveyor.

Jeffrey Standard Apron Conveyors have a wide range of application in the Canning industry and are successfully serving many Canneries, both large and small.

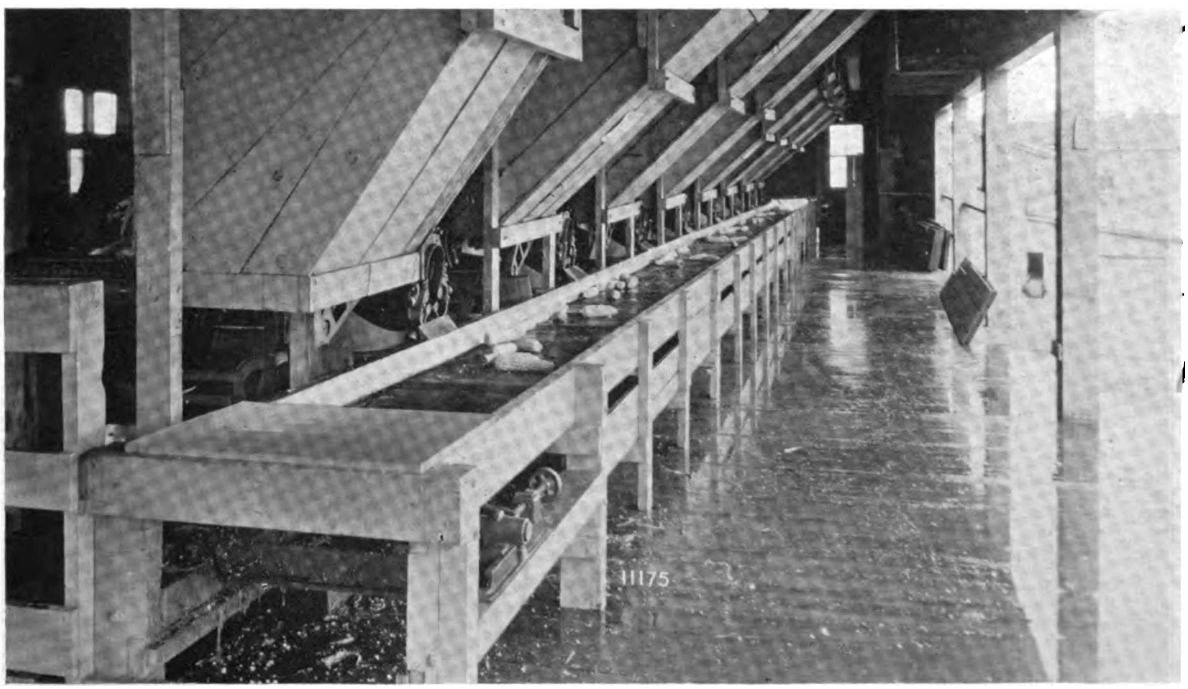
The illustration above shows a Jeffrey Wood Apron Conveyor handling crates in husking shed, while the right hand view shows a Jeffrey Conveyor serving the warehouse of the Cannery pictured above.

For detailed information on Apron Conveyors, see pages 161 to 222.

Conveying Equipment for Canneries

Apron Conveyors

Jeffrey Standard Wood Apron Conveyor handling corn in husking shed.



A light service but durable Wood Apron Conveyor handling corn from husking machines.

For detailed information on Wood Apron Conveyors, see pages 195 to 222.

Conveying Equipment for Canneries

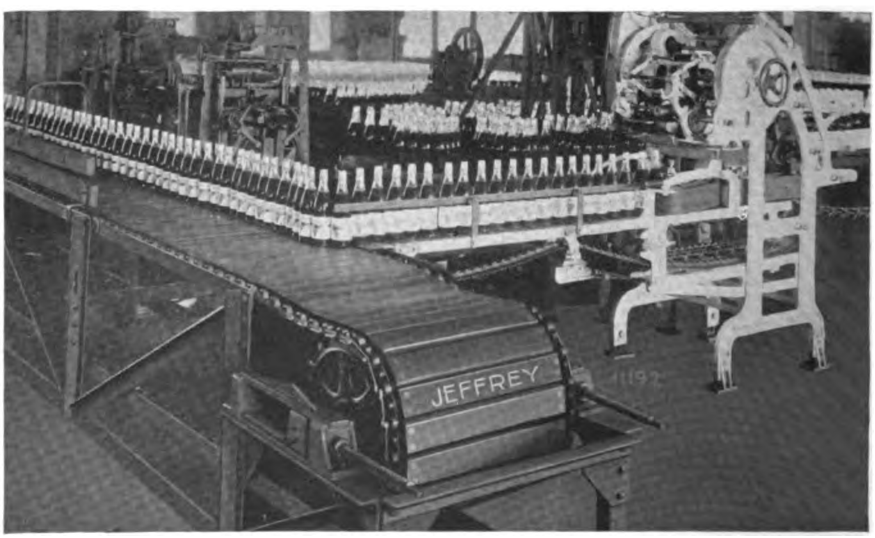
Apron Conveyors

A Jeffrey Material Handling installation in a plant manufacturing Grape Juice. Installations such as this effect remarkable savings in handling costs, besides increasing the production and efficiency of the plant.

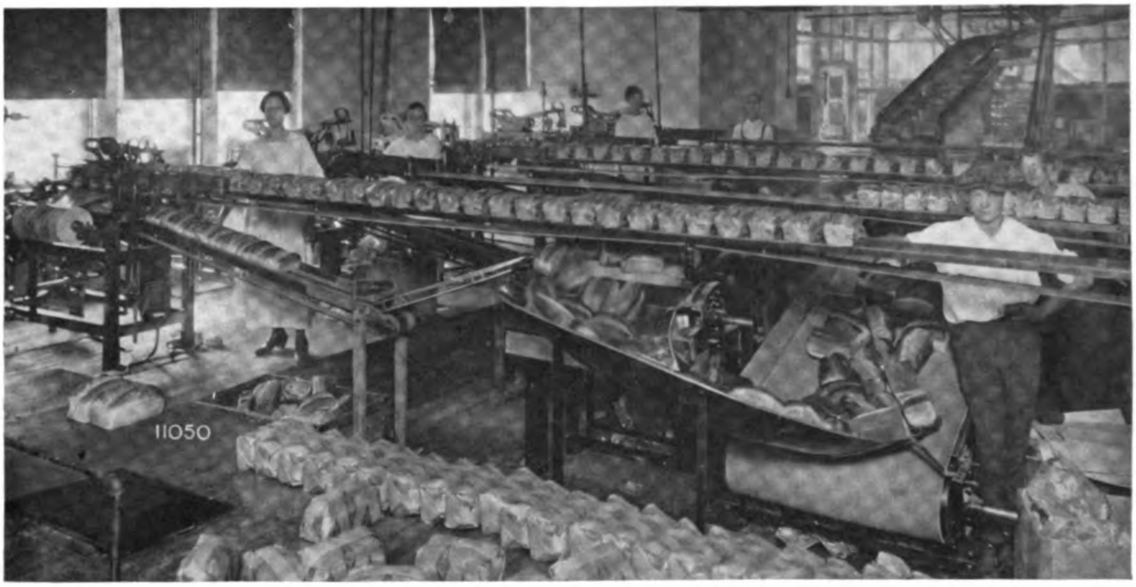
The top view shows a Jeffrey Steel Apron Conveyor carrying the grapes from the washer, while the illustration at the left shows a Jeffrey Wood Apron Conveyor for carrying the crates to the washer shown above.

In the lower illustration a Jeffrey Wood Apron Conveyor is handling the bottles from the bottling room to the capping machines. The perfect action of the Apron Conveyor insures the utmost care in the handling of this fragile product.

For detailed information on Apron Conveyors, see pages 161 to 222.



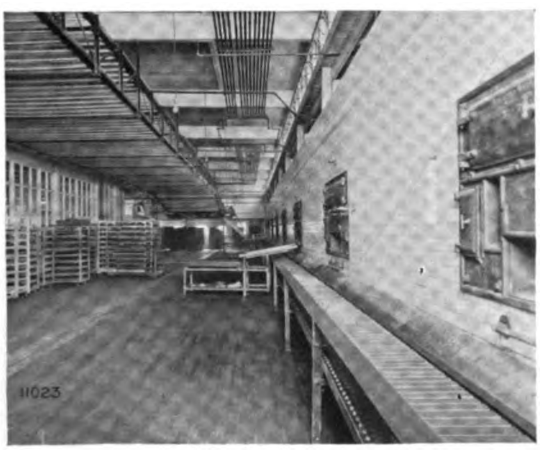
Bakery Equipments



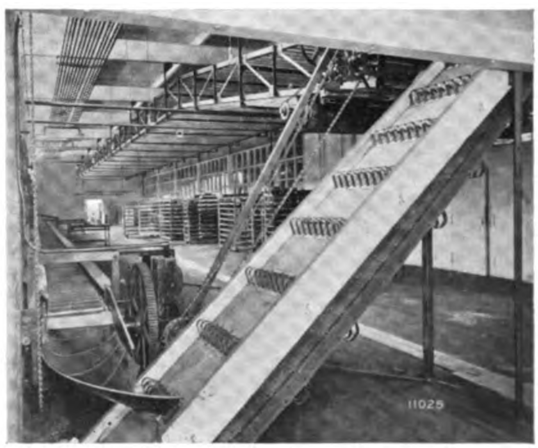
A series of Jeffrey Flat Belt Conveyors form a very efficient method of carrying loaves of bread from the wrapping and sealing machines.

MAKING bread on a large scale requires modern methods of mechanical handling. Jeffrey Belt and Apron Conveyors make it easy to handle a large capacity of bread in a day's time from the oven to the delivery platform—thus effecting a marked saving in both time and labor.

Jeffrey Tray Elevator for handling either barrels or bags. For complete information on Tray Elevators, see pages 399 to 406.



Jeffrey Wood Apron Conveyor for handling bread from the ovens to the cooling conveyor. For detailed information on Wood Apron Conveyors, see pages 195 to 222.



Showing the overhead cooling conveyor which receives the loaves from the Apron Conveyor by means of an inclined belt conveyor.

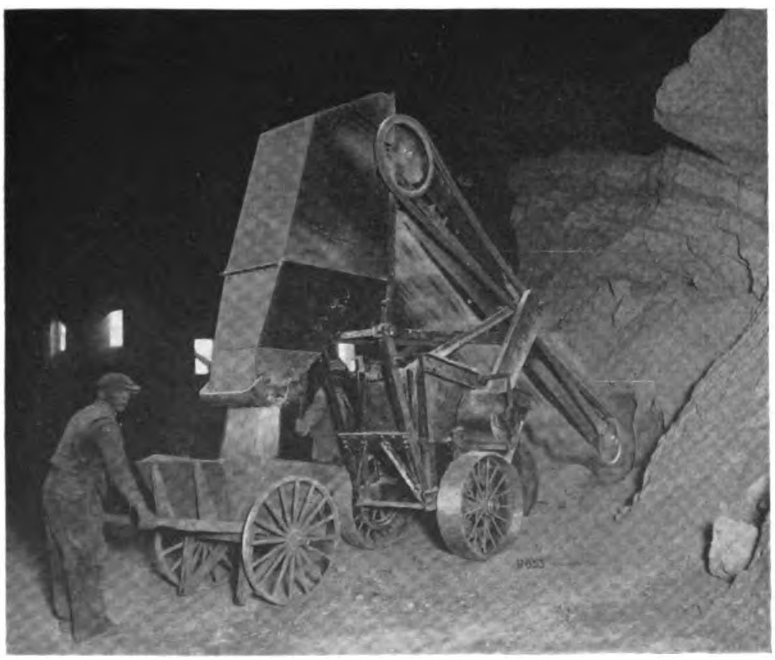
Fertilizer Machinery

Section
5

Fertilizer Machinery

Type G Fertilizer Digger and Loader

Cutting Handling Costs in the Fertilizer Industry with Jeffrey Equipment.



Acid Phosphate is Reduced to Powder by the Action of the Diggers.

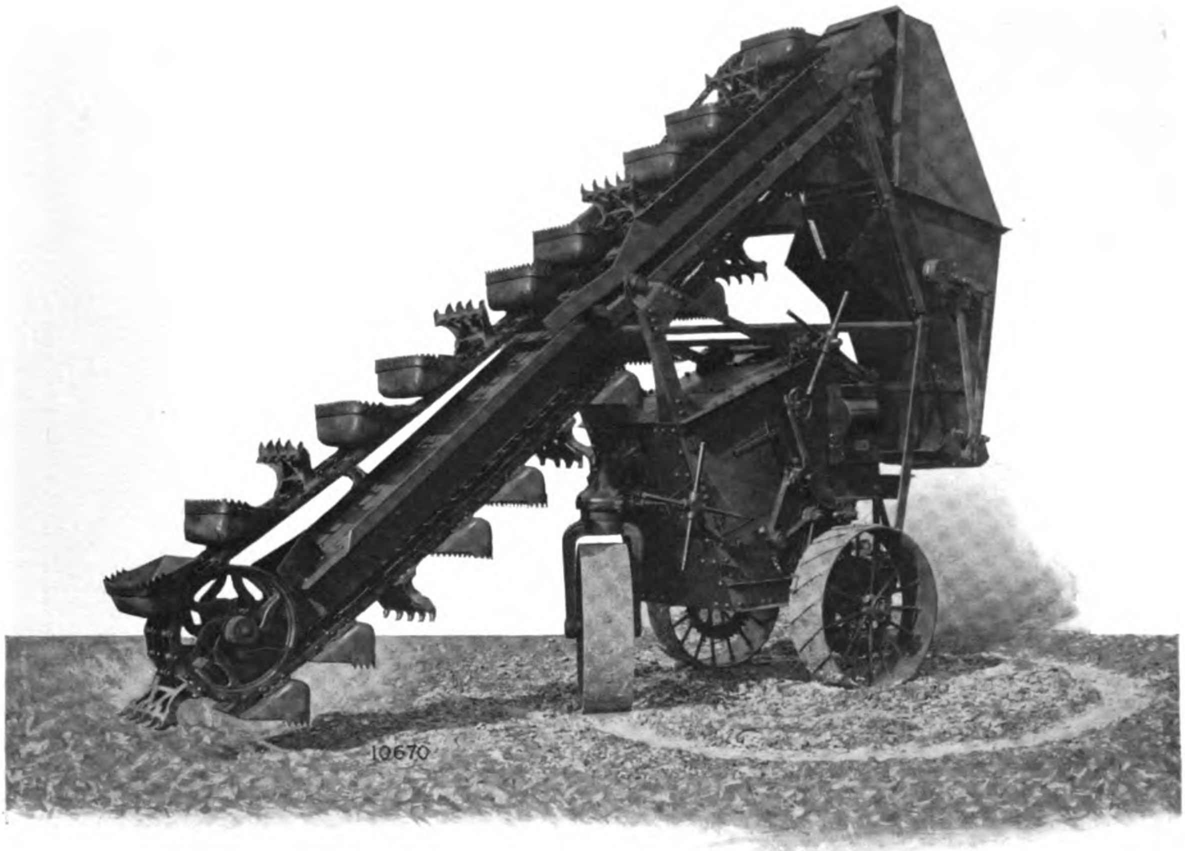
CAREFUL investigation of the handling needs of the Fertilizer Industry by Jeffrey Engineers has enabled them to design machinery which would serve to both cut labor costs and increase production, with the least amount of investment and upkeep.

The Type "G" Digger and Loader has won great favor in this field through its ability to both dig and load hard acid phosphate, requiring but one man to operate it.

This factor alone represents a saving of from 6 to 8 men. It is a matter of but a few seconds to load a 500 lb. buggy from the storage hopper of the Loader.

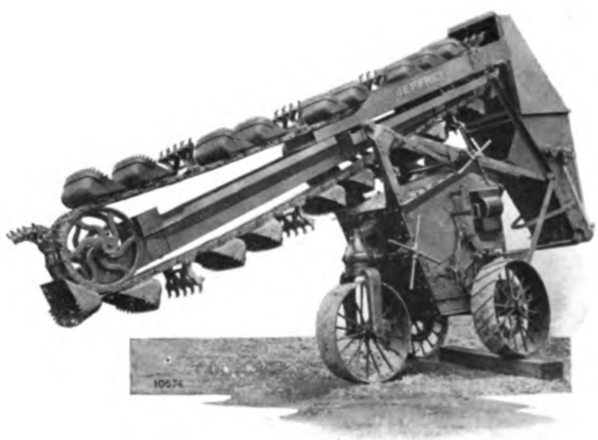
Many other types of Jeffrey Machinery applicable to the Fertilizer and allied industries, are shown on the following pages of this section.

Type G Fertilizer Digger and Loader



Mounted on three large wheels, the Digger and Loader stands steadily at all times and will turn on either Drive Wheel as a Pivot.

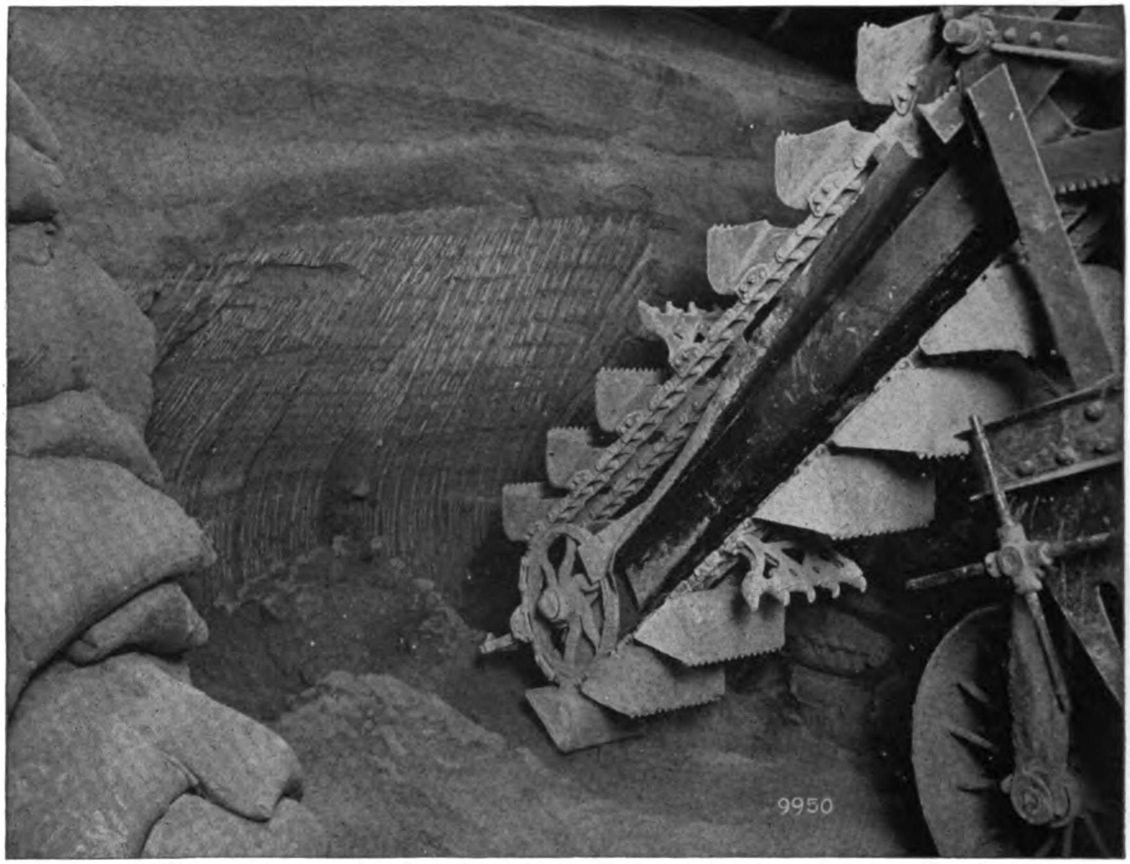
THE large, wide faced supporting wheels will carry the machine safely over medium soft ground. The machine, being supported at three points, will not throw out of line under any ordinary conditions of floor or load. As shown above, it will travel in any direction even to turning short circles using the ground for a turn table. The two large cleated drive wheels carry the bulk of the weight and insure maximum traction effort. These two driving wheels are driven by power and a differential gear between them enables one to turn independently of the other. There is a slow speed for feeding into materials and a fast speed for traveling from place to place, while a reverse gear enables the machine to move in either direction at either speed. An easily operated disc type friction clutch quickly starts and stops the propelling mechanism.



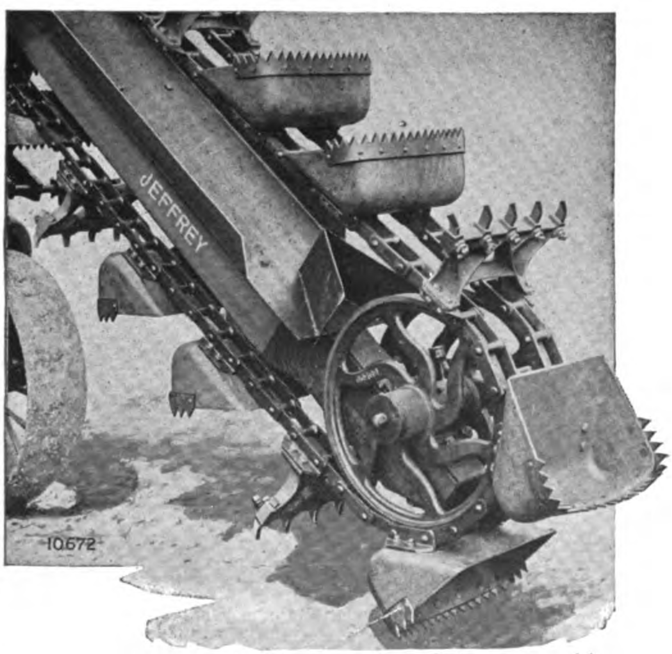
Three point support, large wheels and low center of gravity enable Loader to travel over rough ground.

Fertilizer Machinery

Type G Fertilizer Digger and Loader



Jeffrey Type G Digger and Loader under-cutting hard Acid Phosphate.

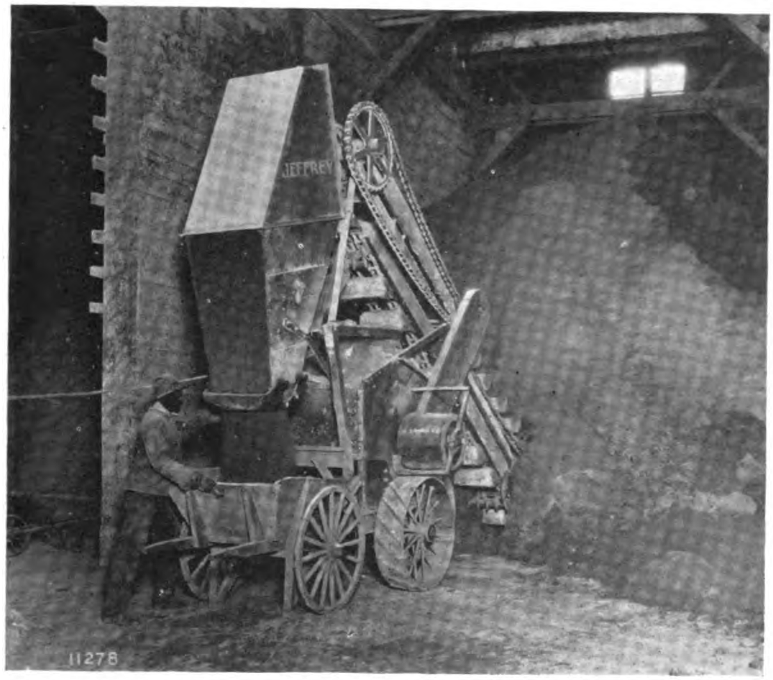


Large slow moving Buckets protected by renewable Digger Edges. Large Foot Wheels and Hardened Steel Digger Tools readily handle the hardest Acid Phosphate.

THE large, round cornered Malleable Iron Buckets are easily kept clean. There are no sharp corners to fill up. The top of the bucket is cut off level so that material once in the bucket will not spill out in carrying to top of elevator. The rounded front of the bucket enables it to get a better hold on the material. A renewable steel digger edge extending across the front and around a portion of the sides protects the bucket from wear.

Digger Tools spaced at intervals to the buckets eliminate hand picking. They are fitted with renewable high carbon hardened steel bits which loosen the acid phosphate so that it may be picked up by the buckets.

Type G Fertilizer Digger and Loader

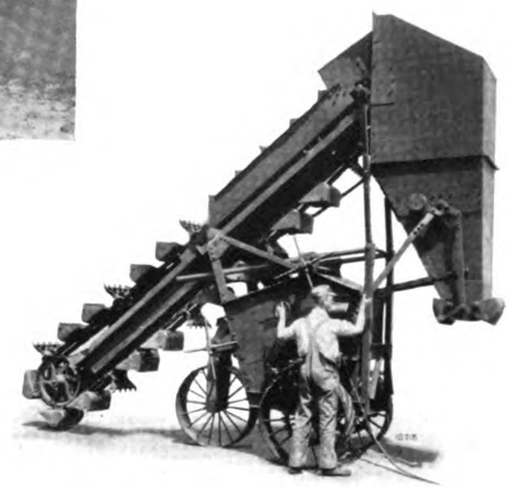


The Storage Hopper with its quickly operated valve enables the large carts to be loaded in a few seconds.

THE buckets of the Jeffrey Type "G" Digger and Loader discharge a continuous stream of material into the large storage hopper which has a capacity of 1 cubic yard.

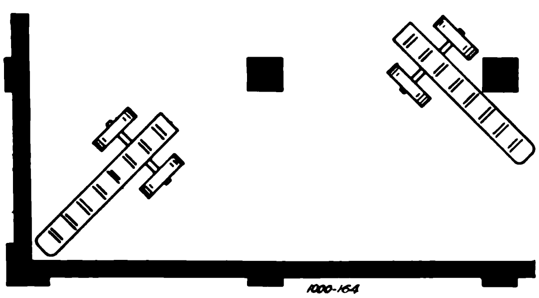
The valve jaws of the storage hopper are operated by a single lever and are powerful enough to nip off any large lump of acid phosphate should it be caught between the jaws.

The Steering Wheel of the Jeffrey Type "G" Digger and Loader may be turned through a large angle, hence the machine will turn readily in a small space or may be made to travel in any desired direction. This saves much time in close quarters.

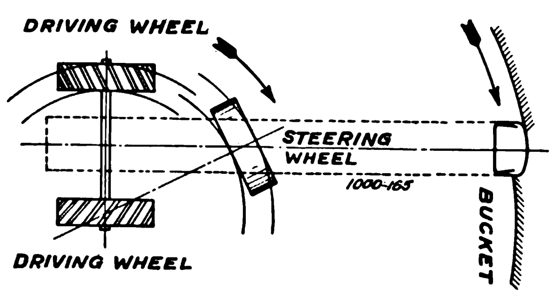


Only one man required to operate the Jeffrey Type "G" Digger and Loader. All controlling Levers are within convenient reach of the operator.

The Diagram below clearly illustrates the advantages of the three-wheel construction in meeting the conditions of the Fertilizer Plant, where many posts are encountered.

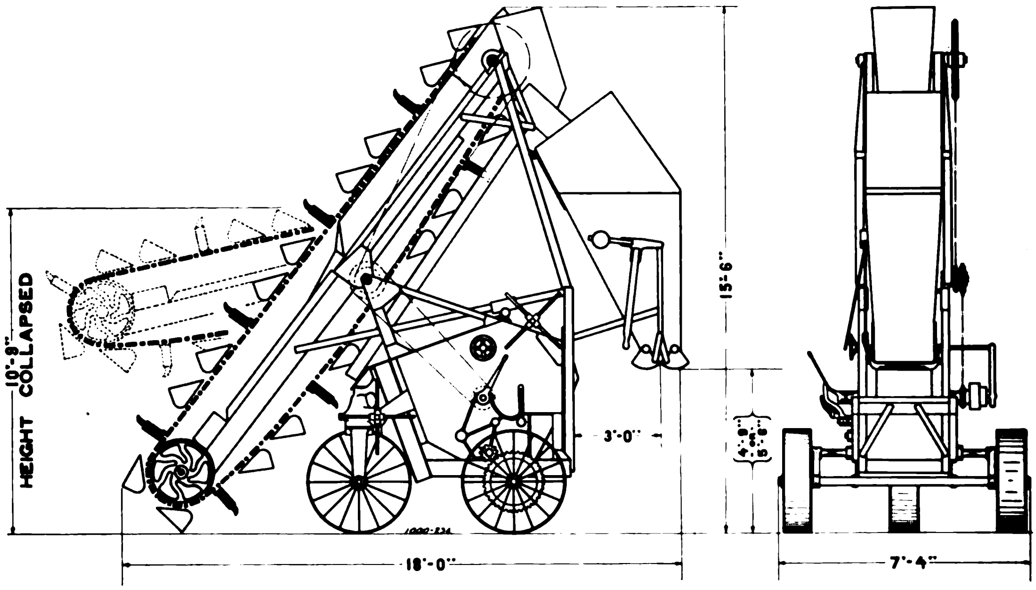


Working around posts and into corners.



Making a side cut with Jeffrey Loader.

Fertilizer Machinery



General form and clearance dimensions of Jeffrey Type G Digger and Loader

General Specifications

Capacity—Elevator has capacity of 60 tons per hour when fed continuously into loose acid phosphate or complete fertilizer. In digging and loading hard acid phosphate one man and machine can keep a shipping mill going to full capacity.

Elevator Chains—Two strands of Jeffrey No. 102-B Square Shank Hercules Chain with ⅝" diameter high carbon steel pins.

Buckets—Special design 18" x 12" heavy Malleable Iron Buckets fitted with renewable digger edge steel teeth riveted on front lip and end.

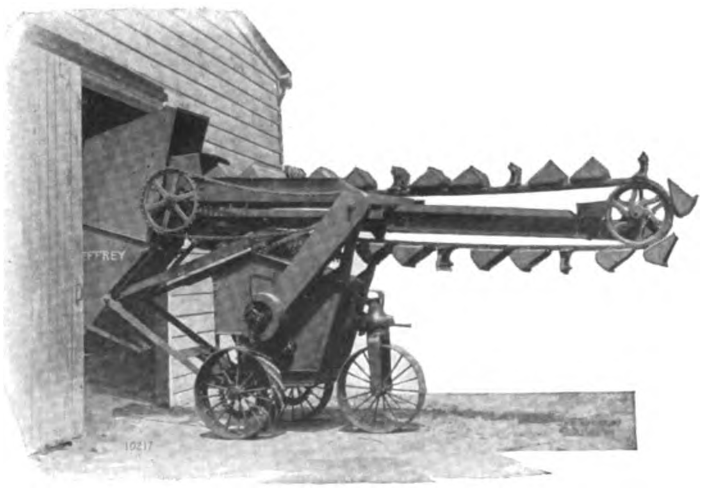
Wheels—All wheels 36" in diameter by 10" face—driving wheels fitted with roughing cleats.

Self-Propelling Device — consisting of cut steel gears, two speeds forward and two speeds reverse— fast speed for traveling from pile to pile, and slow speed for digging into material. Operated independently of elevator clutch.

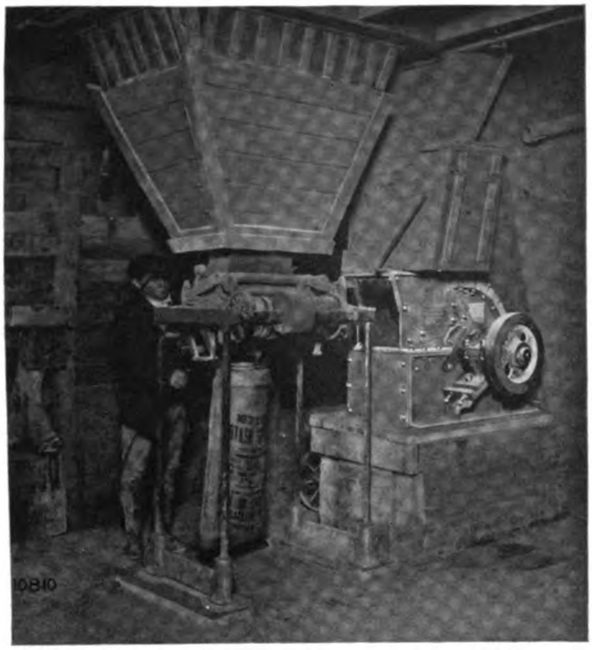
Boom Adjustment—Depth of cut may be regulated or boom collapsed completely as shown in the left-hand illustration, without unloosening a bolt.

Drive—7½ horse power constant duty motor either direct or alternating current.

Shipping Weight—Approximately 8,000 lbs.

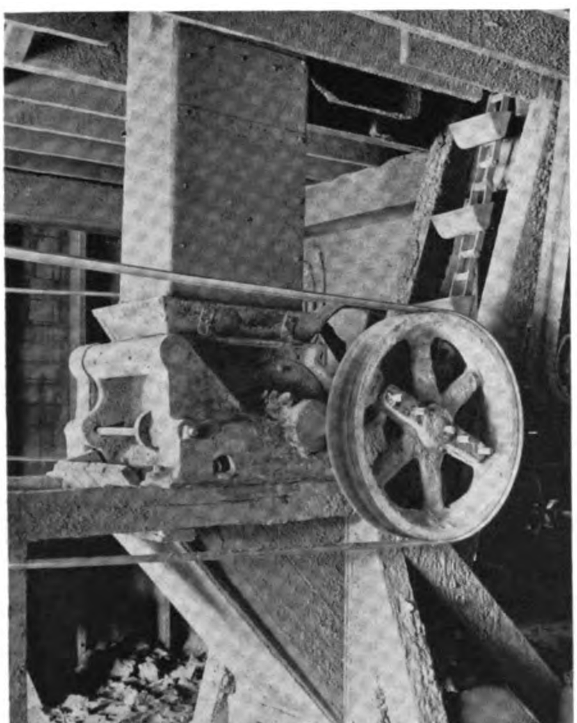


Collapsed to pass under low obstructions. This feature is easily and readily accomplished without unloosening a bolt.



Type A Swing Hammer Pulverizer

Type B Swing Hammer Pulverizer



Single Roll Crusher reducing Alum

Swing Hammer Pulverizers

THE Jeffrey Type "A" Swing Hammer Pulverizer, shown above, has proved itself a very efficient machine in the reduction of so large a variety of substances that it has become indispensable to many industries, but especially adapts itself to the reduction of the various classes of material met with in Fertilizer, Rendering and similar industries. The Type "B" Pulverizer is a heavier machine than the Type "A" and consequently adapted to much more severe service.

For Detailed Information on Pulverizers, see pages 593 to 614.

Single Roll Crusher

Patented

While the Jeffrey Single Roll Crusher shown at the left, has its general application in the reduction of Coal, it lends itself equally well to the crushing of Bone, Alum and similar materials encountered in the Fertilizer Industry.

For Detailed Information on Single Roll Crushers, see pages 565 to 582.

Fertilizer Machinery

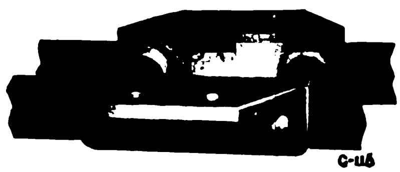
The Square Shank Pin is held rigidly in the Side Bars, thus distributing the wear to the long wearing surfaces of the solid links.

Jeffrey Square Shank Pin Hercules Chain with K-2 Attachment

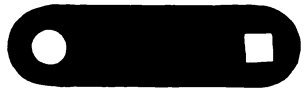
This type of Chain is used for drives of moderate speeds and quite extensively for Elevators and Conveyors, being well fitted to the handling of gritty materials.

THE Hercules Chain is a combination of Malleable Iron Block Links and Steel Side Bars with Square Shank Steel Pins. The wearing qualities of this type of Chain, coupled with its ability to withstand shock, makes it the logical chain for the severe service encountered in the Fertilizer Industry.

The Square Shank Steel Pin.

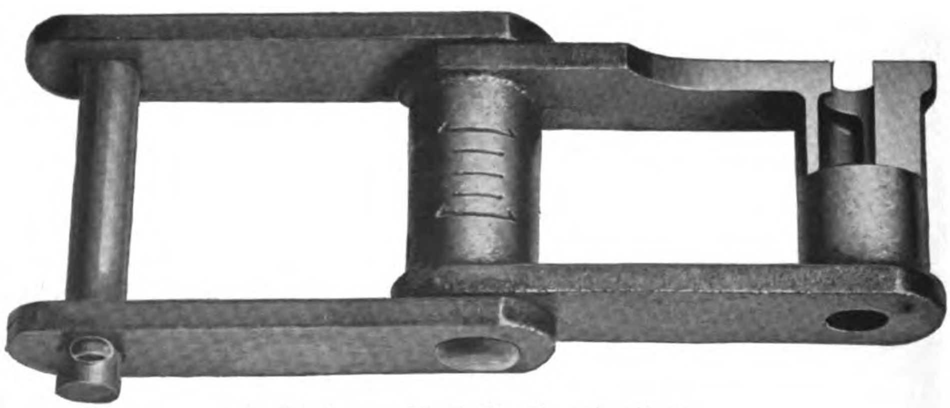


Angle K-2 Attachment for holding the Buckets.



Interchangeable side bar for Square Shank Pin.

Chain No.	Pitch Inches	Approx. Wt. per ft. lbs.	Working Strength 150 ft. per min.	Max. Speed Feet per min.	Dimensions—Inches				
					Side Bar		Diam. Pins	Overall Width	Dia. Boss around Pins
					Width	Thickness			
102B	3.96	6.0	3900	450	1 1/2	3/8	5/8	4 1/8	1 -1 1/8
102 1/2	4.028	9.0	5600	400	1 3/4	3/8	3/4	4 5/16	1 3/8
110	6.00	6.0	3900	350	1 1/2	3/8	5/8	4 1/8	1 1/4
111	4.78	9.6	5600	400	1 3/4	3/8	3/4	4 3/4	1 3/8-1 5/8
111SP	4.78&7.22	7.8	5600	350	1 3/4	3/8	3/4	4 3/4	1 3/8-1 5/8
131	3.07	6.4	3750	550	1 1/2	3/8	5/8	3 5/16	1 1/4
132	6.125	14.2	10000	300	2	1/2	1	6 1/8	1 3/4
188	2.61	4.2	2450	600	1 1/8	1/4	1/2	2 9/16	7/8



No. 111 Square Shank Pin Hercules Chain

The No. 111 Hercules Chain is designed particularly to meet the demands of the Fertilizer Industry. Extra metal being added where the barrel comes in contact with the sprocket tooth, greatly increases the life of the chain.

The barrel of the chain contains a cavity that can be filled with graphite grease for conditions that necessitate a self-lubricating chain.

Fcr other types of Jeffrey Chains, see Pages 423 to 528.

Fertilizer Machinery

Sprockets and Traction Wheels

JEFFREY Hercules Sprocket Wheels are ordinarily made of a high grade refined Cast Iron. Can also be furnished with chilled teeth and rims hardened by the J-CO process if desired.

Chilled sprockets are especially adapted to severe service such as handling materials in Cement Mills, Phosphate, Crushed Stone, Ashes, Sand, Gravel and other abrasive materials.

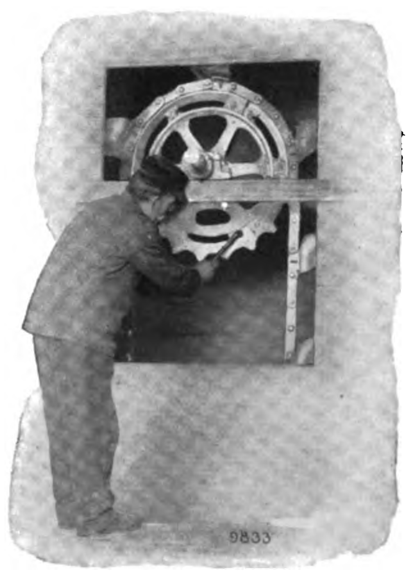
Excessive wear on sprockets and chain of the Hercules type is due to the grinding action produced when the rear barrel is dropping into place.

By omitting every other tooth and having the block link fall in front of the tooth this wear is practically eliminated.

On wheels without teeth, such as the traction wheel, a chilled or hardened rim adds considerably to the life of the wheel. These are ideal for the foot of elevators and are often used as head wheels.

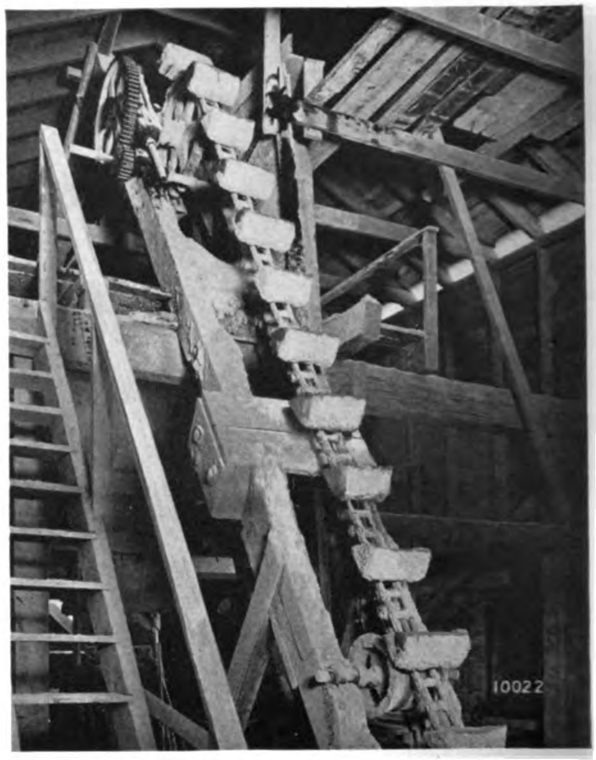
Pat. apd. for.

The renewable rim sprockets are ideal for head wheels on elevators used in the Fertilizer Industry. When the sprockets are badly worn the rims can be changed without removing the chain or taking the sprocket center off the shaft.



Fertilizer Machinery

Jeffrey Standard Bucket Elevator with Steel Casing



Handling Acid Phosphate with a Jeffrey Inclined Bucket Elevator

Standard Bucket Elevators

JEFFREY Standard Bucket Elevators, made up of Hercules Chain and Malleable Iron Buckets, meet every elevating requirement of the Fertilizer Industry. They are designed to do service as an inclined or vertical elevator as shown by accompanying illustrations.

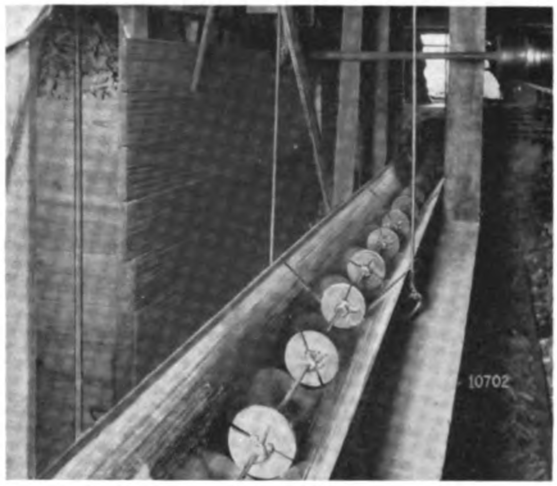
Fertilizer Elevator Casings

The Elevator Casing shown at the left is especially designed for service in Fertilizer Plants, and is provided with large clean-out door which gives ready access to the chain and buckets.

For Detailed Information on Jeffrey Standard Bucket Elevators, see pages 363 to 398.

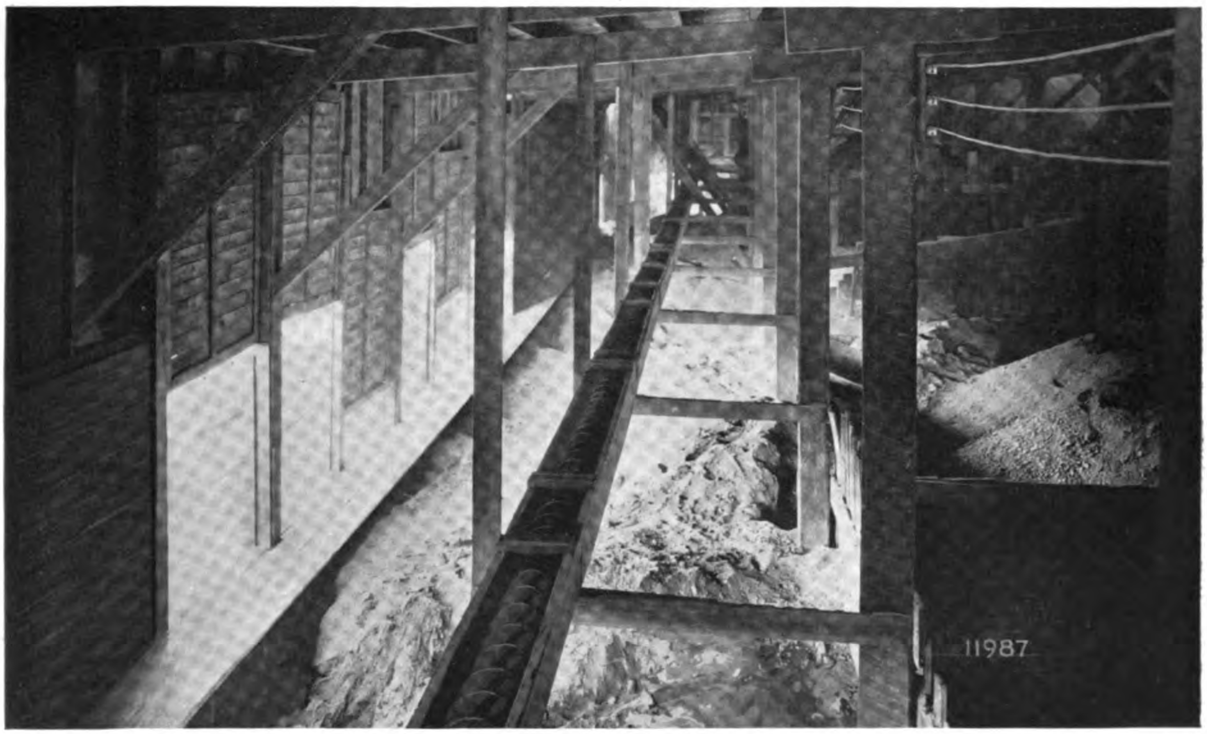
Belt Conveyor

Jeffrey Rubber Belt Conveyors make ideal carriers for loose bulk materials in a fertilizer plant. For detailed information on Belt Conveyors, see pages 223 to 268.



Cable Conveyor

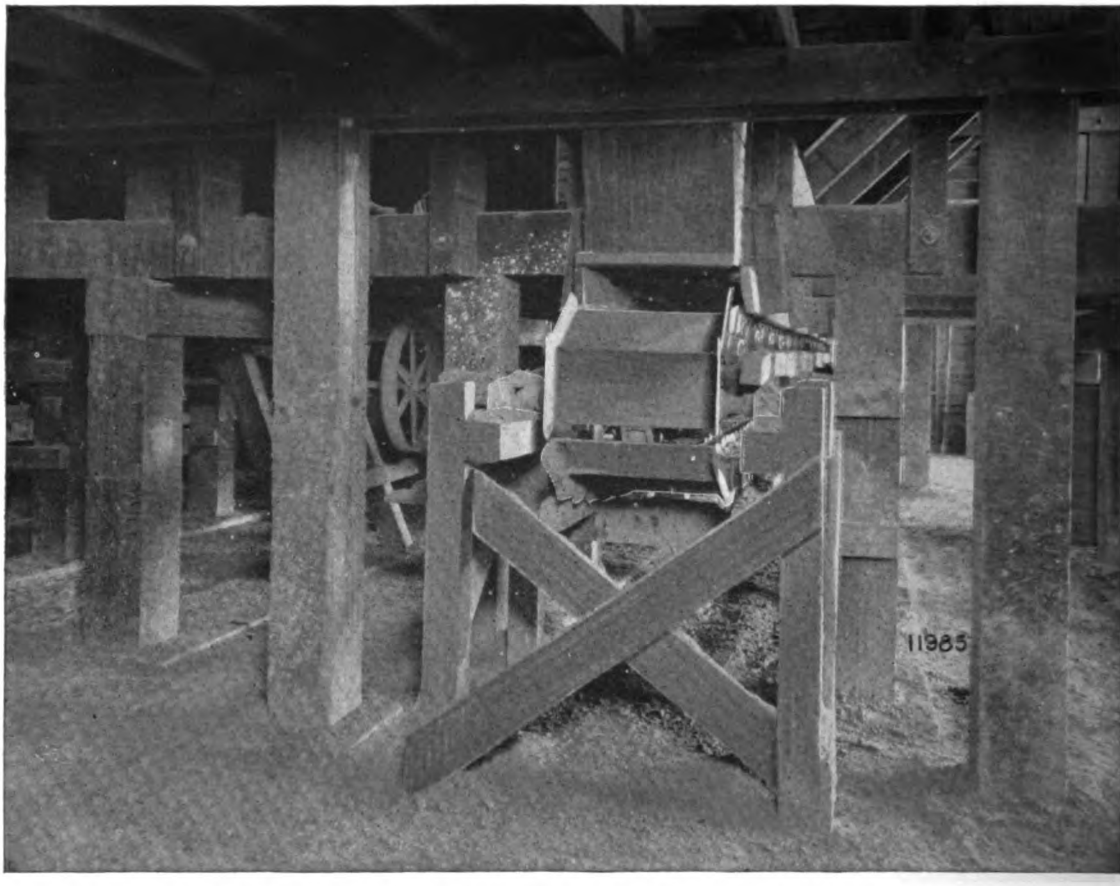
The Cable Conveyor, through its economy in operation, is generally suited to the handling of loose materials, such as those met with in reduction plants. For detailed information, see pages 333 to 342.



Spiral Conveyors

JEFFREY Spiral Conveyors meet the requirements of the Fertilizer Industry in the handling of fine, dusty materials as the trough can be fully enclosed. Having no return strand, the Spiral Conveyor requires but little space in which to operate and can therefore be installed in inaccessible places such as immediately under floors or roofs. For detailed information on Spiral Conveyors, see pages 349 to 362.

Fertilizer Machinery

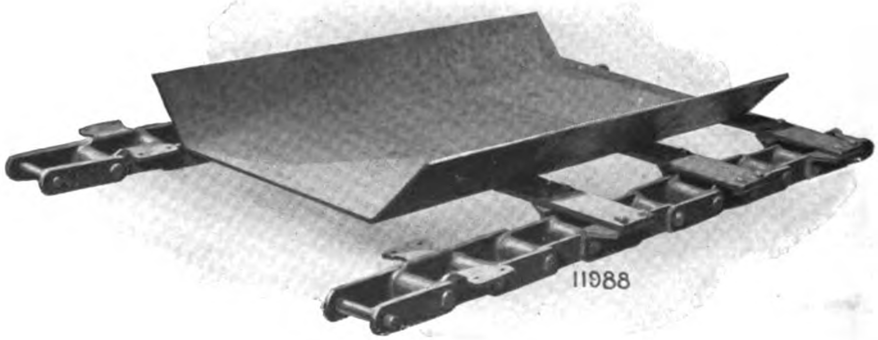


This Jeffrey Pan Conveyor delivers Acid Phosphate from the Den to Bucket Elevator.

Pan Conveyors

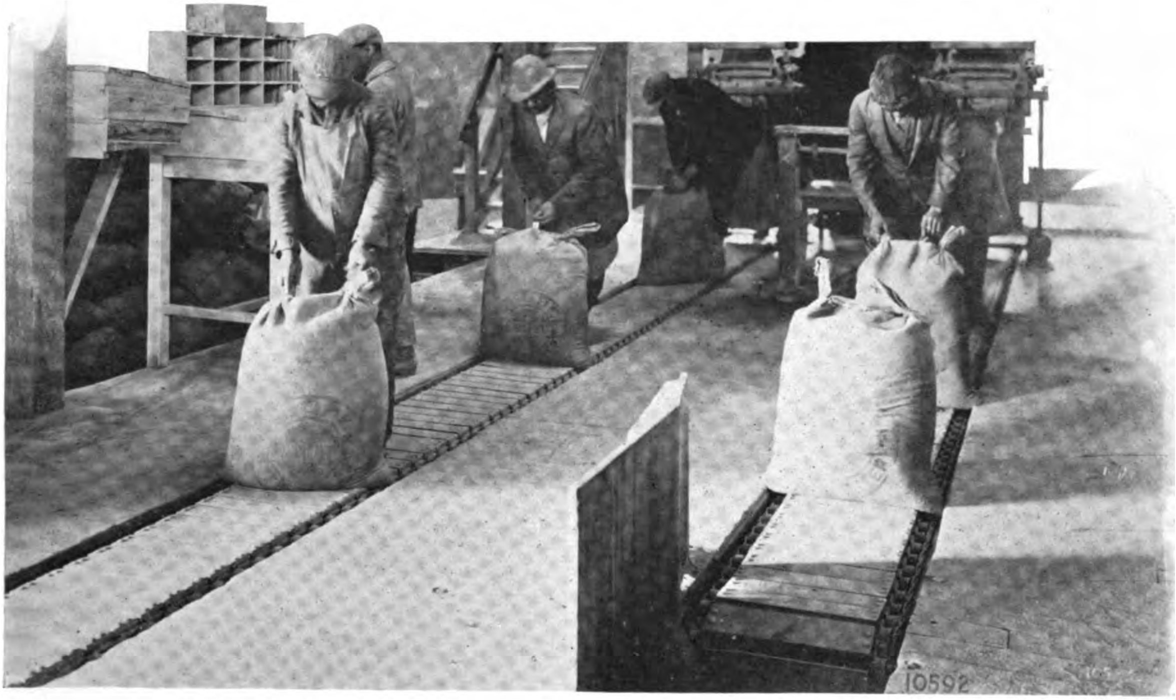
WHERE material is to be carried some distance the Pan Conveyor makes a satisfactory carrier in a Fertilizer Plant. Used as an intermediate carrier between other units it saves much labor, time and expense.

The Pan Conveyor is made up in various styles and sizes of pans and mounted on various types of chain, one of which is shown below. For detailed information on Pan Conveyors, see pages 343 to 348.

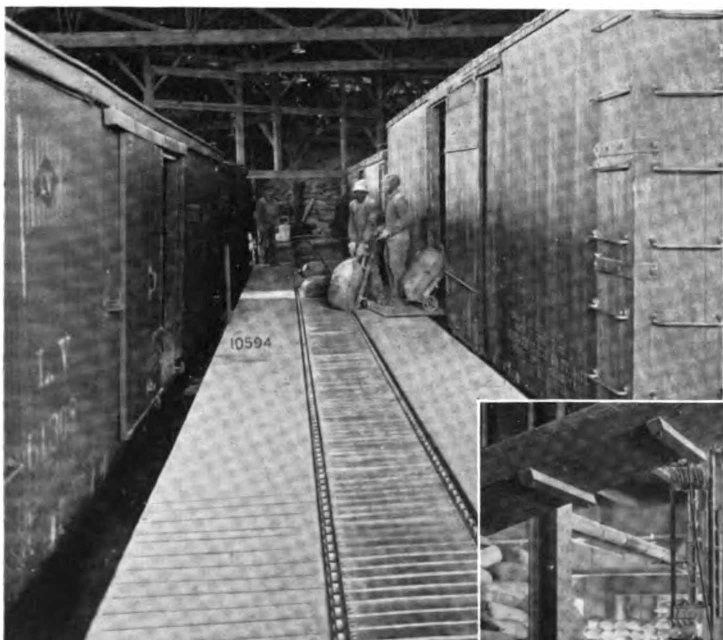


Section of Pan Conveyor showing how the pans are mounted on the Hercules Chain with K-2 Attachments.

Fertilizer Machinery



Two Jeffrey Wood Apron Conveyors as installed in a Fertilizer Plant for transferring sacks from sacking machines to shipping platform.



Wood Apron Conveyors

JEFFREY Wood Apron Conveyors render a practical service to Fertilizer Plants in keeping their shipping on the move. The illustration on the left shows how the conveyor makes possible the loading of railroad cars at any point along the platform, eliminating many hand truckers and the confusion usually found where much hand trucking is done.

For detailed information, see pages 195 to 222.

Portable Bag Stacker

Storage space is greatly increased by the use of a Jeffrey Portable Bag Stacker with comparatively little labor. Machine may also be used for breaking down the piles.

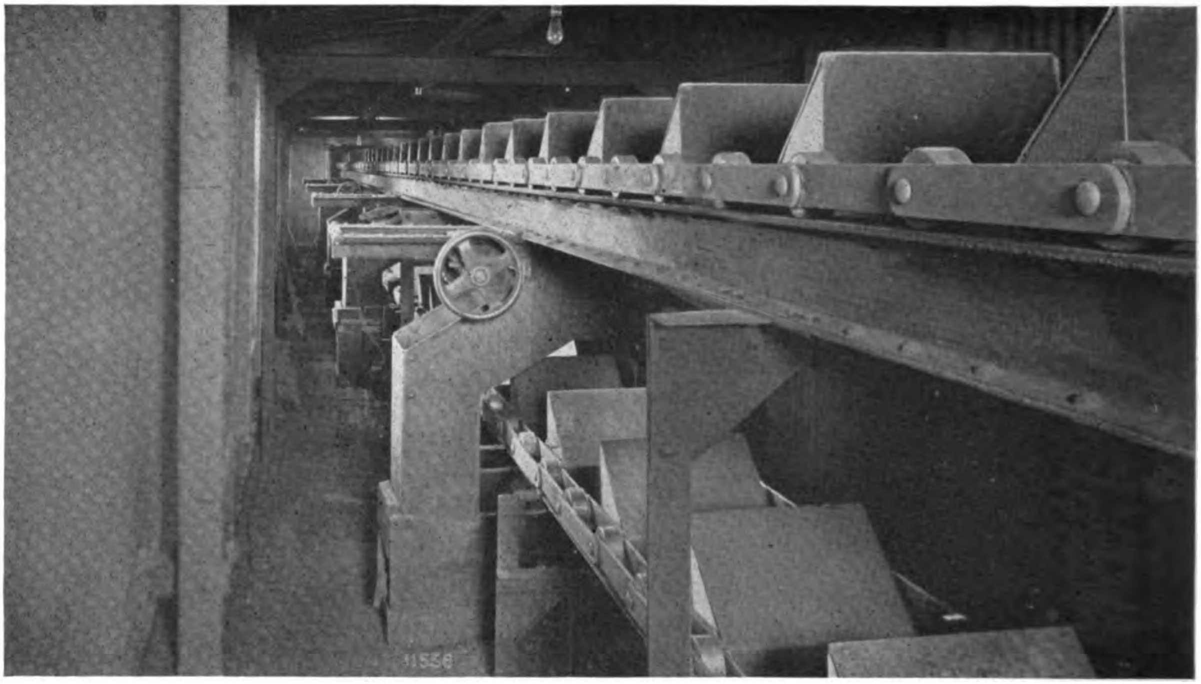
For detailed information, see page 420.

Coal Pockets *and* Coaling Stations

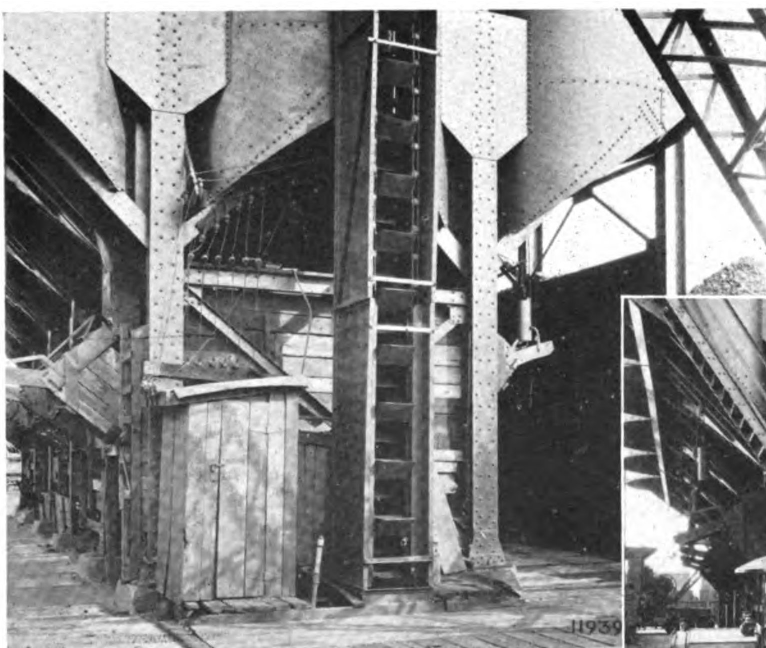
Section
6

Coal Pocket Equipment

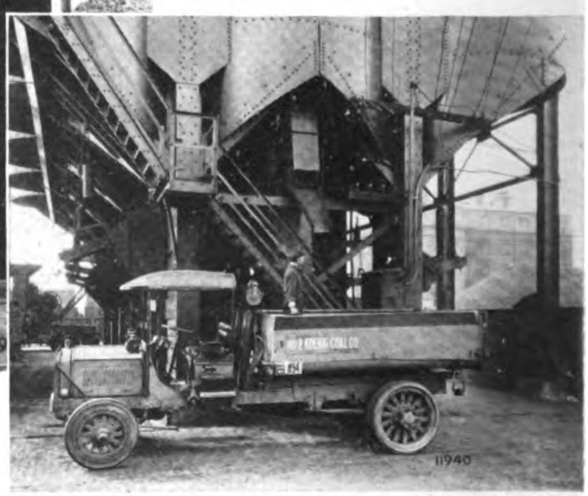
V-Bucket Conveyor



Jeffrey V-Bucket Conveyor distributing coal to storage bins in a large Retail Coal Pocket.



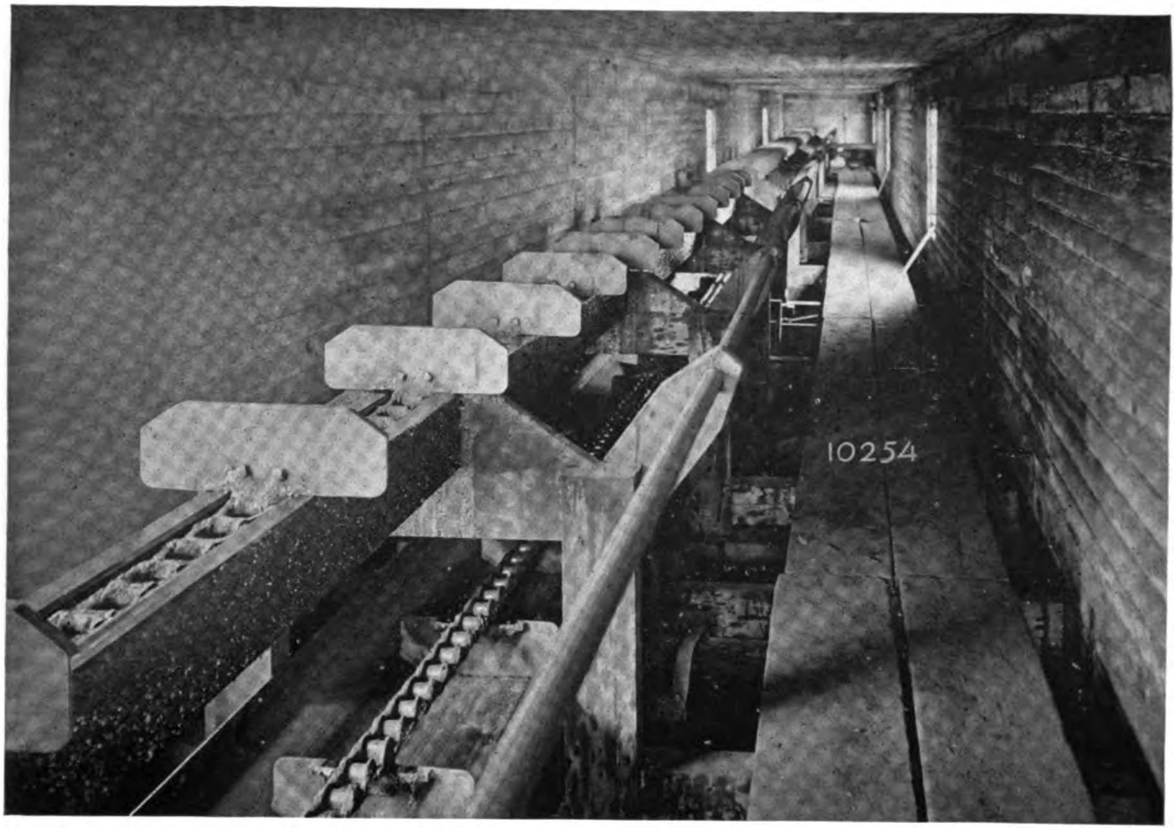
THE ability of the V-Bucket Conveyor to both elevate and deliver coal on the horizontal, makes it an ideal equipment for large Coal Pockets. If installed as a run-a-round conveyor, the V-Bucket can also be used to reclaim the slack coal from screening chutes.



For Detailed Information on Jeffrey V-Bucket Conveyors, see pages 42 to 65.

Coal Pocket Equipment

Scraper Conveyor

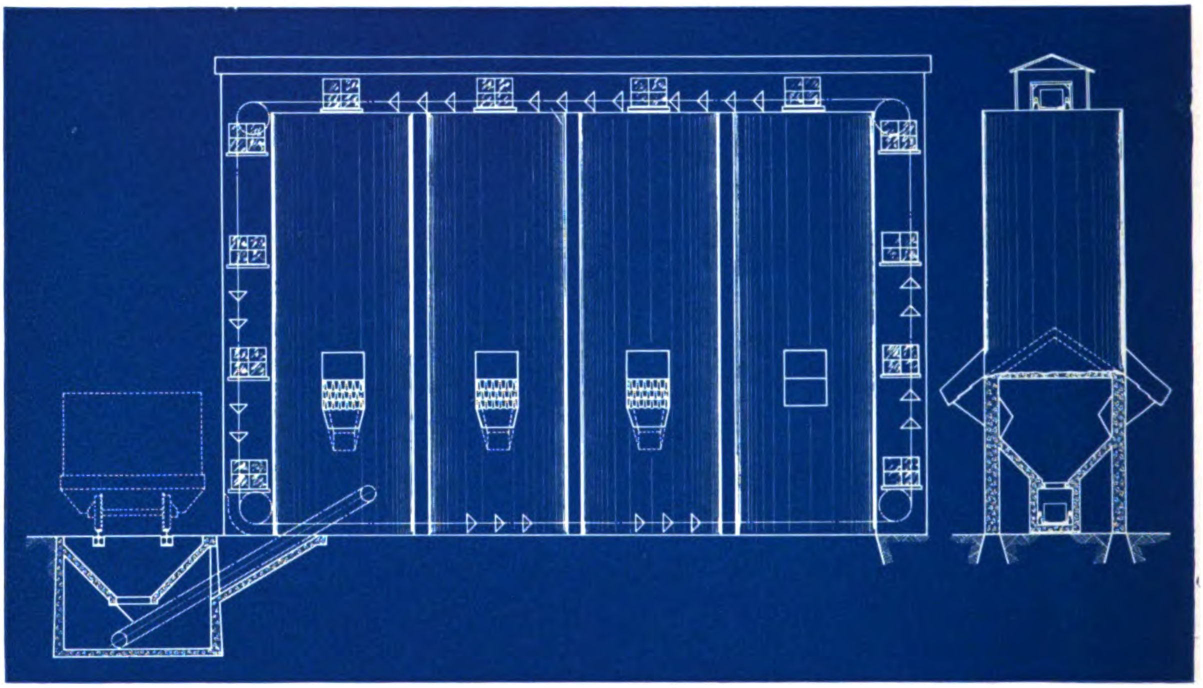


A Single Strand Scraper Conveyor serving the Coal Pocket shown below.

THERE is no more satisfactory application of the Jeffrey Scraper Conveyor than in the Retail Coal Pocket business. Its low cost, great reliability and the small amount of power used in its operation highly recommend it for the proper distribution of coal into storage bins.

For Detailed Information on Jeffrey Scraper Conveyors, see pages 269 to 332.

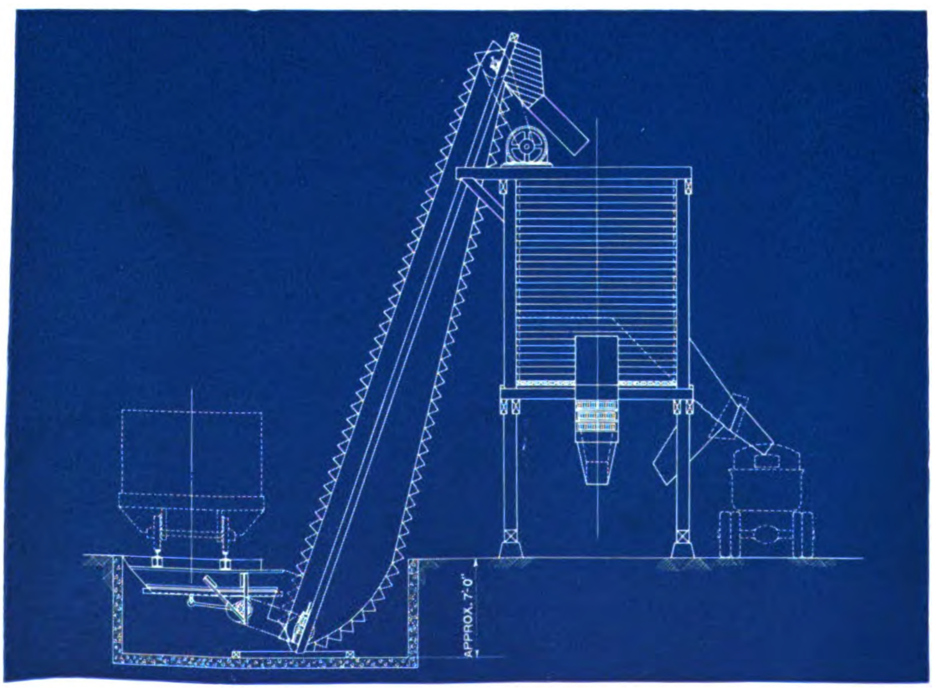
Coal Pocket Equipment



General Arrangement of a Large Retail Coal Pocket

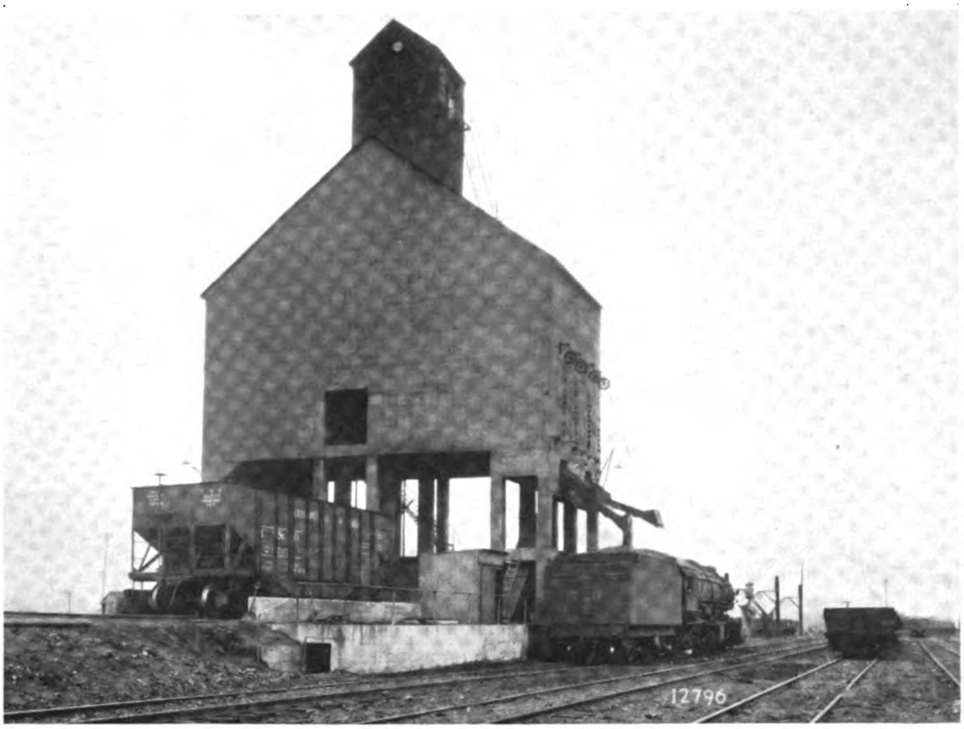
COAL is discharged from hopper bottom railroad cars into track hopper. An Apron Feeder delivers the coal to the V-Bucket Conveyor which elevates and distributes the coal to storage bins. By the arrangement shown above, the fines and slack coal from the screening chutes can be reclaimed by the conveyor.

An Ideal Arrangement for Moderate Capacity Coal Pocket

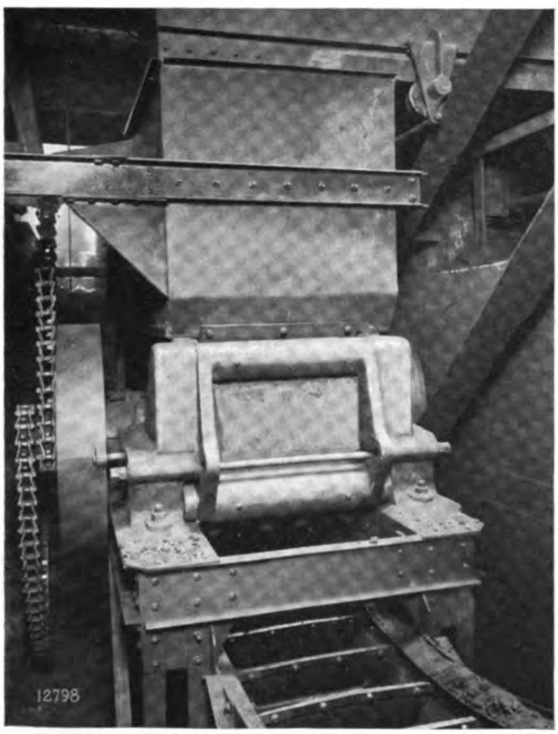


A SMALL steel hopper with reciprocating plate feeder, receives coal from the hopper bottom cars and discharges it into the continuous bucket elevator, which in turn delivers it to storage bin. The arrangement shown at the left can be enlarged to serve additional bins by installing a distributing conveyor. This same equipment is also recommended for the handling of sand and gravel.

Coaling Station Equipment



Exterior of a modern Coaling Station equipped with Jeffrey Machinery.



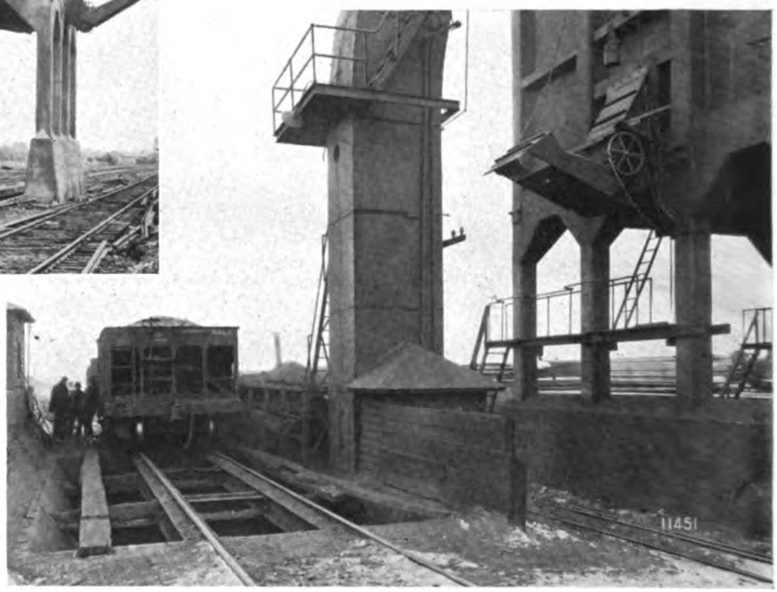
Jeffrey Single Roll Crusher serving the above Coaling Station. For detailed information on Jeffrey Crushers, see pages 565 to 582.

A Jeffrey Double Strand Scraper Conveyor for delivering coal from Crusher in the same installation. For detailed information on Jeffrey Scraper Conveyors, see pages 269 to 332.

Coaling Station Equipment

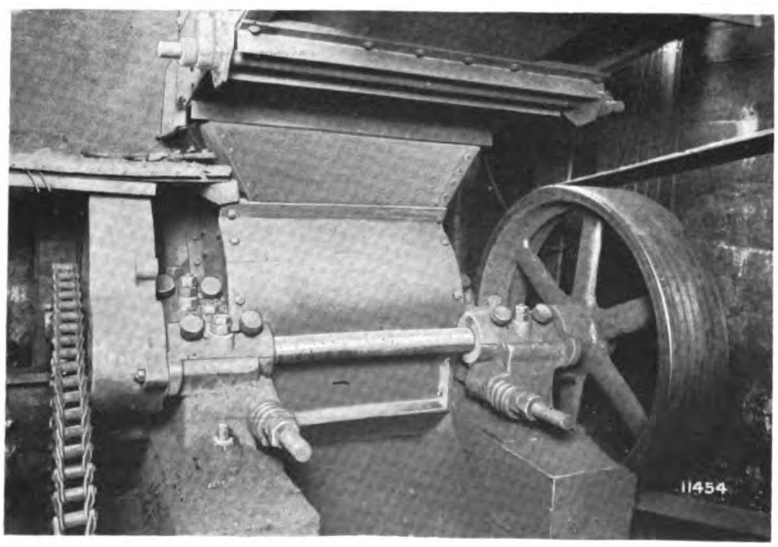
JEFFREY Coaling Station Equipments are giving economical and dependable service in many railroad Coaling Stations throughout the country. The V-Bucket Conveyor, because of its flexibility lends itself very readily to this class of service.

For detailed information on Jeffrey V-Bucket Conveyors, see pages 42 to 65.



Large receiving Track Hoppers, as shown in the right hand illustration, insure quick emptying of Gondolas.

For detailed information on Track Hoppers, see pages 34 to 41.

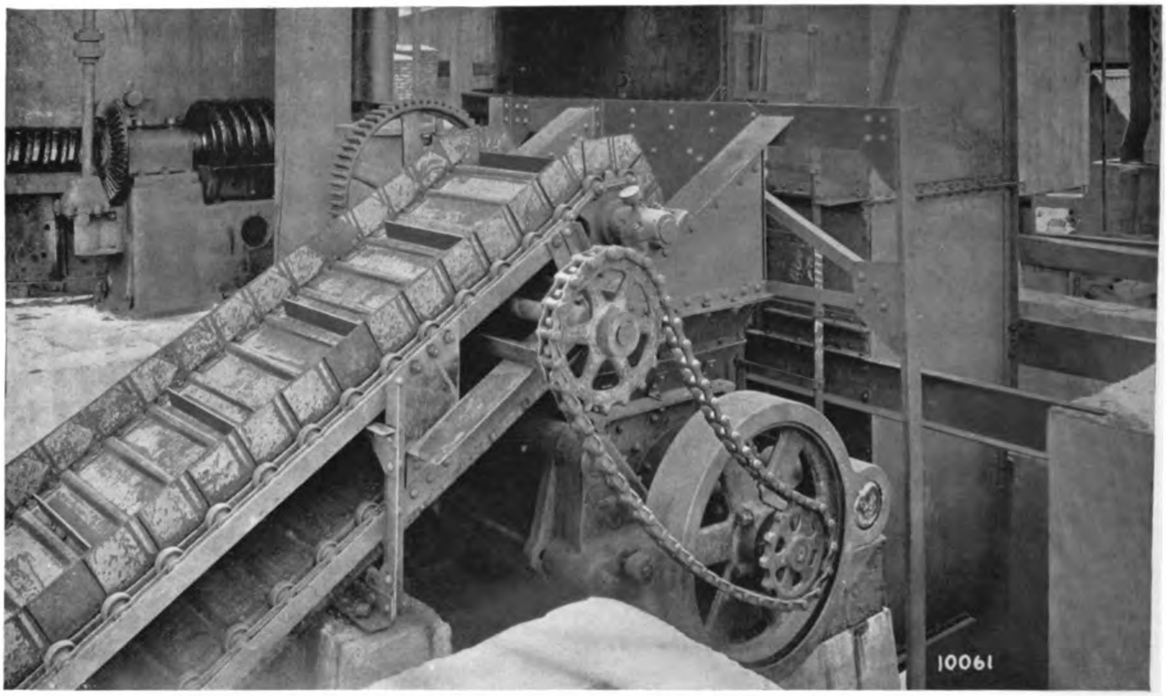


Jeffrey Single Roll Crushers have proven themselves an important factor in the reduction of coal to proper stoker size in railway service. At the left is shown one of the many Jeffrey Single Roll Crushers that are serving Coaling Stations.

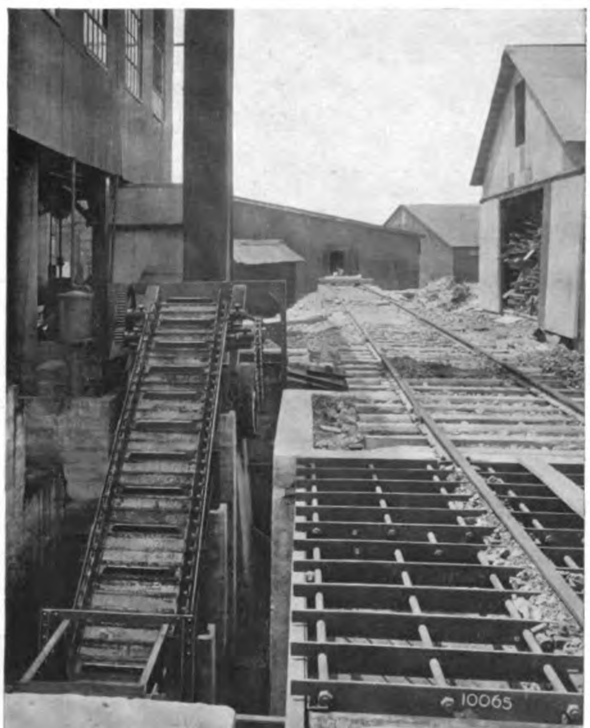
Standard Steel Apron Conveyors

Section
7

Steel Apron Conveyors



Jeffrey Standard Steel Apron Conveyor operating from under track hopper as shown in lower left hand illustration, for carrying coal to crusher.



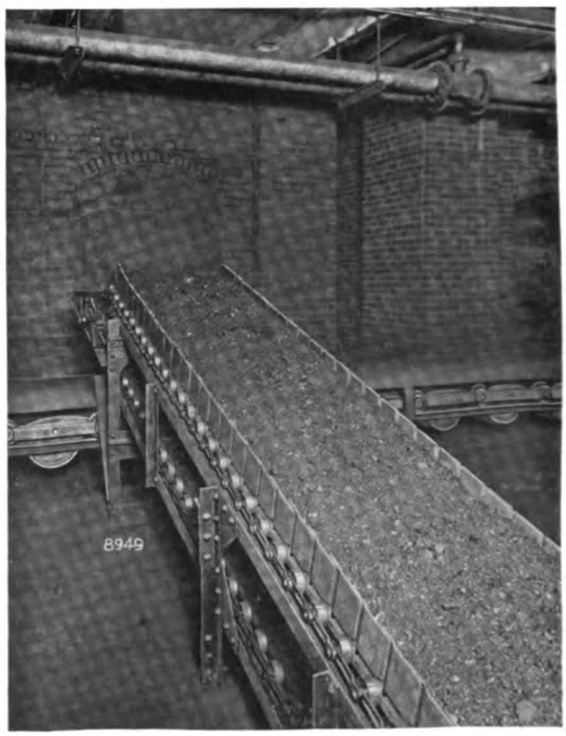
Another view of the same Steel Apron Conveyor showing the cleats placed at intervals to enable it to carry up the incline.

Jeffrey Steel Apron Conveyor handling coal from under track hopper and crusher to storage pit.

Steel Apron Conveyors

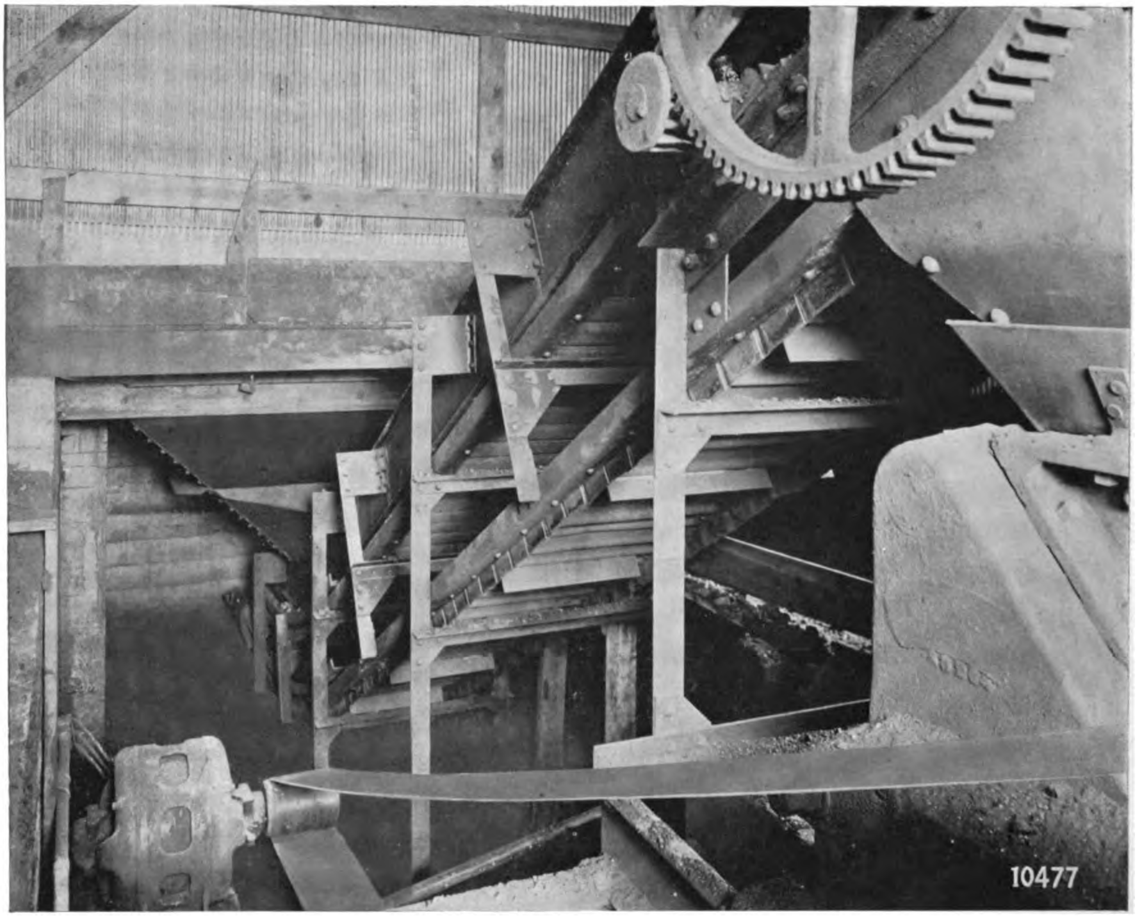
A Standard Steel Apron Conveyor used in reclamation work in a Refuse Disposal Plant. The Refuse dumped onto this Steel Apron Conveyor is carried to sorting room.

A long Steel Apron Conveyor which carries coal from Crusher to Boiler House.



The Steel Apron Conveyor is ideally suited as an intermediate Carrier in transferring coal from one unit to another in Boiler House service.

Steel Apron Conveyors

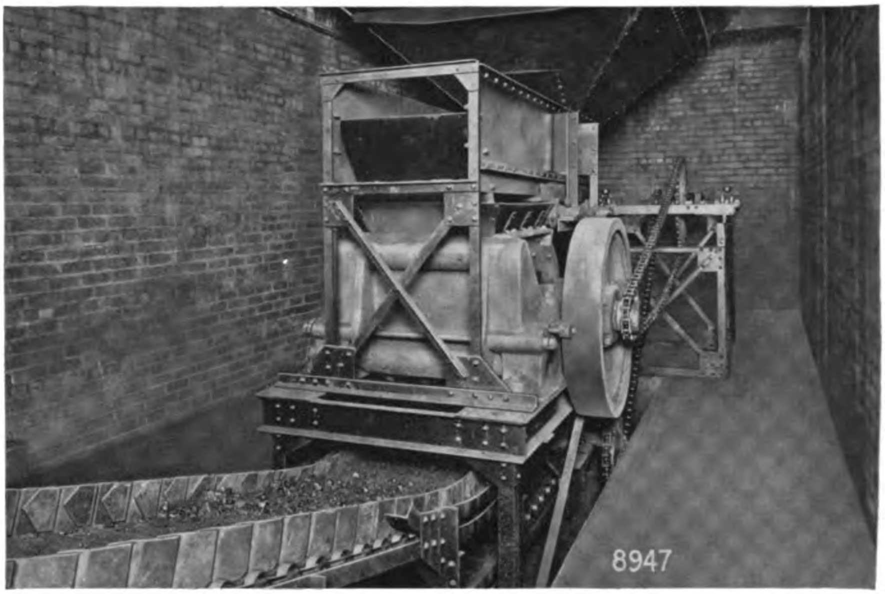


Steel Apron Feeder carrying coal from track hopper to Crusher

A Dependable Feeder

JEFFREY Standard Steel Apron Conveyor, equipped with skirtboards, serving as a feeder conveyor delivering run-of-mine coal from track hopper to a Jeffrey 30″ x 30″ Single Roll Crusher. The Apron is 30″ wide, mounted on 126-C Malleable Roller Chain, page 176. From beneath the crusher a scraper conveyor carries the crushed coal up an incline into storage bins from where it is spouted into the gas producers of a large glass factory.

Steel Apron Conveyors



Jeffrey Steel Apron Conveyor carrying coal from crusher to main conveyor in a large Power House.

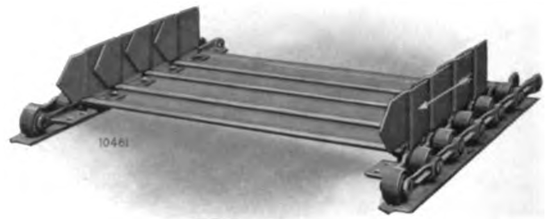
Coal Tipples are using extensively the Jeffrey Steel Apron Conveyor for Picking Table service. Pickers can work on both sides to remove all foriegn material from the coal before loading into cars. Wooden skirt-boards protect the men. For further details on Jeffrey Picking Tables, see pages 642 and 643.

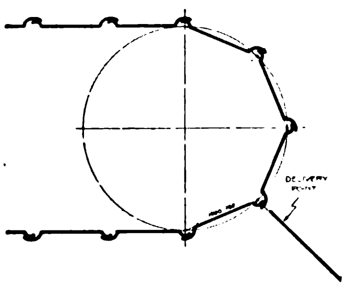
Jeffrey Adjustable Loading Boom is mechanically balanced, requiring little power to operate and practically laying the coal down into the cars, thus reducing breakage to a minimum. For other installations of Jeffrey Loading Booms, see page 645.

Steel Apron Conveyors

Some Important Points to Know Regarding Apron Conveyors

THE Steel Apron consists of two strands of roller chain between which are bolted double beaded steel flights. These flights as shown in the line illustration, are so made that they always overlap thus making a tight apron. The flights are provided with steel ends which in connection with the apron form a continuous moving trough. This type of conveyor is intended for conveying any kind of loose bulk materials which are not of a sticky nature such as coal, ores, stone, gravel, cullets, steel scrap, etc.





"THE DOUBLE BEADED APRON" is the most popular type of steel conveyor and is practically leakage proof in the carrying of non-sticky coarse materials of all kinds. Furnished with retaining ends for loose materials and without ends for merchandise.

Steel Apron Used as Conveyor or Feeder

The steel apron conveyor is particularly adapted for use as a picking table and loading boom for coal. See illustrations page 165. When used in connection with steel skirt boards as illustrated on page 164, it makes a most satisfactory feeder, insuring a continuous, uniform flow of material.

The Standard Conveyors are divided into four sets based on the length of conveyor. The first set includes Conveyors from 0 to 25 feet centers, the second from 26 to 50 feet, the third from 51 to 75 feet, and the fourth from 76 to 100 feet centers.

They may be installed on the horizontal, incline or a combination of incline and horizontal. The corrugated effect of the double beaded flight serves as a check against the flow of material. The angle of inclination, however, should not exceed 30 degrees for such materials as coal, ores, stone, etc.

Double Beaded Apron Practically Leakage Proof

Jeffrey Steel Apron Conveyors are practically noiseless in operation, require but little power and as the material is at all times carried by the conveyor, the item of breakage is negligible which makes them ideal for friable materials.

Because of their flexibility and wide range of sizes the Standard Steel Apron Conveyors will meet the requirements of almost any conveying problem which might present itself.

Things to Note When Ordering your Apron Conveyor

Each Conveyor Complete in Itself

THE specifications of Jeffrey Standard Apron Conveyors shown on the following pages cover all the necessary machinery parts for a complete conveyor. Wearing strips with wood screws are furnished with each conveyor for both the carrying and return runways.

The supports may be of steel or wood construction. If wood is used, any good carpenter or millwright can erect suitable supports and install the machinery parts by following the general erection drawings on Pages 186 to 193 and 218 to 221.

Erecting a Steel Apron Conveyor

In the erection of a Steel Apron Conveyor it is essential that the bottoms of the flights be on the center line of the chain, also that the larger of the two beads and the pointed part of the steel ends face in the same direction as the chain travels. See illustration above.

Walkways should be provided for all conveyors where the chain and flights would otherwise be inaccessible.

How to Figure Shipping Weights

Shipping Weights of any of the Standard Apron Conveyors may be readily figured by referring to Tables of Specifications under the heading of Approximate Shipping Weight, Apron Complete per Foot Centers and multiply the value there given by the centers of the required conveyor. To this product add the Weight of "Terminals Complete".

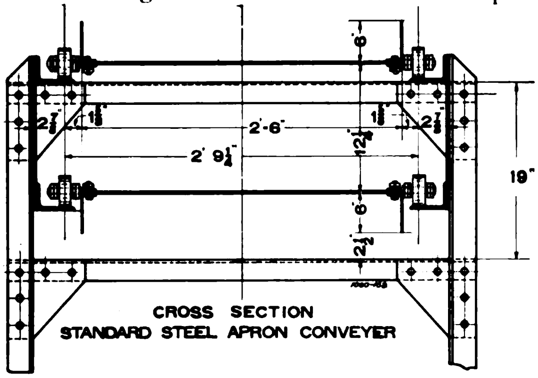
The Terminals comprise Head Shaft with sprockets, bearings and larger gear; Counter Shaft with extension for purchasers drive pulley, bearings, set collar and pinion; Foot Shaft with takeup bearings, set collars and sprockets; also sufficient chain and flights to extend half way around both the head and foot sprockets. "Conveyor per Foot Centers" consists of the necessary wearing strip, chain and flights to make up one foot of both the carrying and return strands.

When ordering or referring to Standard Apron Conveyors, always give Conveyor Number and its Centers.

Steel Apron Conveyors

Capacities of Jeffrey Standard Steel Apron Conveyors

THE Standard Steel Apron Conveyors are divided into two classes, those handling material weighing not in excess of 50 lbs. per cubic foot and those handling material weighing not over 100 lbs. per cubic foot. The capacities of Steel Apron Conveyors handling loose materials are based upon the conveyors being loaded uniformly throughout and traveling at the rate of 100 feet per



CROSS SECTION
STANDARD STEEL APRON CONVEYER

minute. The values given in Tables on following page and in the Tables of Specifications, pages 171 to 185, are 80% of the level full capacity, this percentage having been found to be a very good average. The capacities vary from 45 to 400 tons per hour for the conveyors handling 50 lb. materials, and from 120 to 800 tons per hour for 100 lb. materials.

Determine First the Size of Material

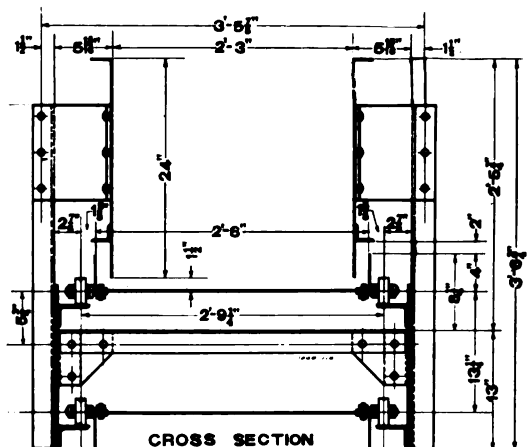
The size of material handled may vary from very fine to 24″ cubes, the "Width of Apron" being the governing factor. It will be noted in Tables on following page and in the Specification Tables on pages 171 to 185, under "Size of Material" that there are two divisions, one giving the "Average Size of Material to be handled" and the other division showing the "Maximum Size Pieces" which the conveyor will handle, with the notation that the amount of such pieces should not exceed 10% of all the material. If this percentage is exceeded the next larger size conveyor should be specified irrespective of the capacity.

How to find Capacity for Different Materials

If material of a lesser weight is to be handled than that indicated the capacity must be reduced in direct proportion. For example it is desired to convey wood chips at the rate of 30 tons per hour, the chips weighing approximately 20 lbs. per cubic foot. The Standard Conveyors will handle just as big a volume of chips at 20 lbs. per cubic foot as they will of material weighing 50 lbs. per cubic foot, but by weight a conveyor with a listed capacity of a certain number of tons per hour of 50 lb. material will handle only $\frac{20}{50}$ of that amount when handling material weighing 20 lb. per cubic foot. From the above it is evident that to handle 30 tons per hour of 20 lb. material it will be necessary to select a conveyor from the tables with a capacity equal to $\frac{50}{20}$ or 2½ times the required capacity. On the other hand if the material to be handled is of a greater weight than that for which the conveyor was figured some sort of feeding device should be provided to insure against overloading the conveyor.

Standard Conveyor Used as a Feeder

When a Standard Apron Conveyor is used as an Apron Feeder, the loaded condition is just the reverse of that when it is used simply as a conveyor. As will be noted from the line cut the Apron Feeder is fitted with steel skirt boards usually about 24″ high, which permit of carrying a deep load. To insure a uniform depth of load the conveyor is operated at a slow speed. The average depth of the load with 24″ skirt boards is about 18″, which is three times as much as a standard conveyor will carry with 6″ high ends. It is evident from the above that if a Standard



CROSS SECTION
APRON FEEDER FOR R.O.M. COAL

Conveyor is to be used as a feeder a conveyor must be selected from the tables which is approximately three times as long as the feeder conveyor. Under these conditions the total load on the two conveyors is about the same and the shafting and gearing required by the long conveyor under normal loading conditions are in keeping with the requirements of a conveyor, one third as long, serving as a feeder conveyor. A safe rule to follow when a conveyor is to serve as a feeder with skirt boards is to select a conveyor from the tables which is three times the length of the feeder conveyor, and specify the centers to suit the requirements. The capacity of a feeder conveyor may be varied by increasing or decreasing the rate of travel.

Steel Apron Conveyors

Table of Capacities and Index to Standard Steel Apron Conveyors

For Material Weighing 50 Pounds per Cubic Foot

Average Size of Material to be handled	Maximum Size Pieces	Capacity Tons per Hour	Width of Apron	0 to 25 ft. Centers		26 to 50 ft. Centers		51 to 75 ft. Centers		76 to 100 ft. Centers	
				Conveyor No.	Page No.	Conveyor No.	Page No.	Conveyor No.	Page No.	Conveyor No.	Page No.
3	6	45	18	2189	171	2281	171	2373	171	2465	171
3	6	60	18	2192	173	2284	173	2376	173	2468	173
3	6	60	18	2195	175	2287	175	2379	175	2471	175
3½	7	100	18	2197	177	2289	177	2381	177	2473	177
4	8	60	24	2212	171	2304	171	2396	171	2488	171
4	8	80	24	2215	173	2307	173	2399	173	2491	173
4	8	80	24	2218	175	2310	175	2402	175	2494	175
4	8	120	24	2198	177	2290	177	2382	177	2474	177
4	8	120	24	2201	179	2293	179	2385	179	2477	179
7	14	74	30	2235	171	2327	171	2419	171	2511	171
7	14	101	30	2238	173	2330	173	2422	173	2514	173
7	14	101	30	2241	175	2333	175	2425	175	2517	175
7	14	149	30	2221	177	2313	177	2405	177	2497	177
7	14	149	30	2224	179	2316	179	2408	179	2500	179
7	14	149	30	2204	181	2296	181	2388	181	2480	181
7	14	149	30	2206	183	2298	183	2390	183	2482	183
9	18	89	36	2258	171	2350	171	2442	171	2533	171
9	18	120	36	2261	173	2353	173	2445	173	2537	173
9	18	120	36	2264	175	2356	175	2448	175	2540	175
9	18	180	36	2244	177	2336	177	2428	177	2520	177
9	18	180	36	2247	179	2339	179	2431	179	2523	179
9	18	180	36	2227	181	2319	181	2411	181	2503	181
9	18	180	36	2229	183	2321	183	2413	183	2505	183
9	18	240	36	2208	185	2300	185	2392	185	2484	185
10	20	276	42	2231	185	2323	185	2415	185	2507	185
14	24	240	48	2267	177	2359	177	2451	177	2543	177
14	24	240	48	2270	179	2362	179	2454	179	2546	179
14	24	240	48	2250	181	2342	181	2434	181	2526	181
14	24	240	48	2252	183	2344	183	2436	183	2528	183
14	24	317	48	2254	185	2346	185	2438	185	2530	185
14	24	300	60	2273	181	2365	181	2457	181	2549	181
14	24	300	60	2275	183	2367	183	2459	183	2551	183
14	24	396	60	2277	185	2369	185	2461	185	2553	185

For Material Weighing 100 Pounds per Cubic Foot

Average Size of Material to be handled	Maximum Size Pieces	Capacity Tons per Hour	Width of Apron	0 to 25 ft. Centers		26 to 50 ft. Centers		51 to 75 ft. Centers		76 to 100 ft. Centers	
				Conveyor No.	Page No.	Conveyor No.	Page No.	Conveyor No.	Page No.	Conveyor No.	Page No.
3	6	120	18	2557	173	2637	173	2717	173	2797	173
3	6	120	18	2560	175	2640	175	2720	175	2800	175
4	8	160	24	2577	173	2657	173	2737	173	2817	173
4	8	160	24	2580	175	2660	175	2740	175	2820	175
4	8	240	24	2563	177	2643	177	2723	177	2803	177
4	8	240	24	2566	179	2646	179	2726	179	2806	179
7	14	202	30	2597	173	2677	173	2757	173	2837	173
7	14	202	30	2600	175	2680	175	2760	175	2840	175
7	14	298	30	2583	177	2663	177	2743	177	2823	177
7	14	298	30	2586	179	2666	179	2746	179	2826	179
7	14	298	30	2569	181	2649	181	2729	181	2809	181
7	14	298	30	2571	183	2651	183	2731	183	2811	183
9	18	240	36	2617	173	2697	173	2777	173	2857	173
9	18	240	36	2620	175	2700	175	2780	175	2860	175
9	18	360	36	2603	177	2683	177	2763	177	2843	177
9	18	360	36	2606	179	2686	179	2766	179	2846	179
9	18	360	36	2589	181	2669	181	2749	181	2829	181
9	18	360	36	2591	183	2671	183	2751	183	2831	183
9	18	480	36	2573	185	2653	185	2733	185	2813	185
10	20	552	42	2593	185	2673	185	2753	185	2833	185
14	24	480	48	2623	177	2703	177	2783	177	2863	177
14	24	480	48	2626	179	2706	179	2786	179	2866	179
14	24	480	48	2609	181	2689	181	2769	181	2849	181
14	24	480	48	2611	183	2691	183	2771	183	2851	183
14	24	634	48	2613	185	2693	185	2773	185	2853	185
14	24	600	60	2629	181	2709	181	2789	181	2869	181
14	24	600	60	2631	183	2711	183	2791	183	2871	183
14	24	792	60	2633	185	2713	185	2793	185	2873	185

Determining Horse-Power for Jeffrey Apron Conveyors

JEFFREY Standard Apron Conveyors in both the Steel and Wood Types are very economical in matter of power consumption as is evidenced by the horse-power ratings of the various conveyors in the specification tables, pages 171 to 185 and 205 to 217. These listed ratings represent the power required at the counter shaft to operate a horizontal conveyor, of the maximum centers given at the top of each table, at a speed of 100 ft. per minute, for the steel conveyors and 60 ft. per minute for the wood.

Horizontal Conveyors

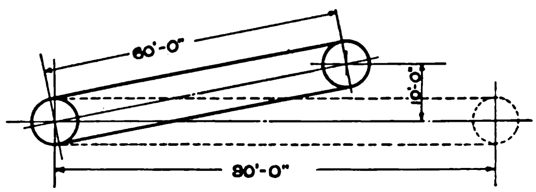
The speeds specified above are about the maximum for good service and proper loading of the conveyors and should not be increased but may be decreased if desired in which case the capacity would be decreased in direct proportion. This is also true of the horsepower which is directly proportional to the speed and varies accordingly. For example: Conveyor No. 2551, page 183, for maximum centers of 100 feet requires 12 horsepower to operate at the specified speed of 100 ft. per minute. As the horsepower of any conveyor is equal to $\frac{\text{Load x speed in ft. per min.}}{33000}$ it is plain to be seen that if the speed of conveyor No. 2551 be reduced one fourth or to 75 ft. per minute the horsepower also is reduced one-fourth.

In the formula above the load as well as the speed is a function of the horsepower. As the load is determined by the length or "Centers" of a conveyor it is evident that the horsepower of any conveyor is dependent upon its length and varies directly as the length is increased or decreased. This is brought out very clearly in the tables of specifications. For example turn to page 183 and compare the horsepower ratings of Conveyors No. 2275, 2367, 2459 and 2551. These four conveyors are identical except in their lengths, there being a difference of 25 feet between each. Note that the horsepower of Conveyor No. 2367 is twice that of 2275 also that the centers of 2367 is twice that of 2275. Conveyor 2459 which is three times as long as 2275 requires three times as much power and so on. From the above it is apparent that if the centers of a required conveyor are less than that listed in the tables the horsepower may be reduced accordingly.

Incline Conveyors

While the horsepower ratings in the tables are for horizontal conveyors any one of the conveyors may be installed on an incline providing the angle of inclination does not exceed 30 degrees from the horizontal.

Nominally, the horsepower required for an inclined conveyor is the same as that required for a horizontal conveyor whose centers are equal to that of the inclined conveyor plus three feet for each foot of rise. For example a conveyor of 60 feet inclined centers which has a rise of 10 ft. requires the same horsepower as a horizontal conveyor of 60 plus 3 times 10 or 90 feet centers.



All of the Standard Apron Conveyors are provided with one set of cast teeth gears and a countershaft which has a keyseated extension to receive purchasers drive pulley or sprocket. See table below. If the speeds, given in the tables of specifications, for the countershafts are not sufficient to connect with the source of power, an additional set of gears with a second countershaft should be provided. The diameter of this second countershaft may be safely taken as ½" less than the first countershaft with 1 3/16" Diameter as a minimum.

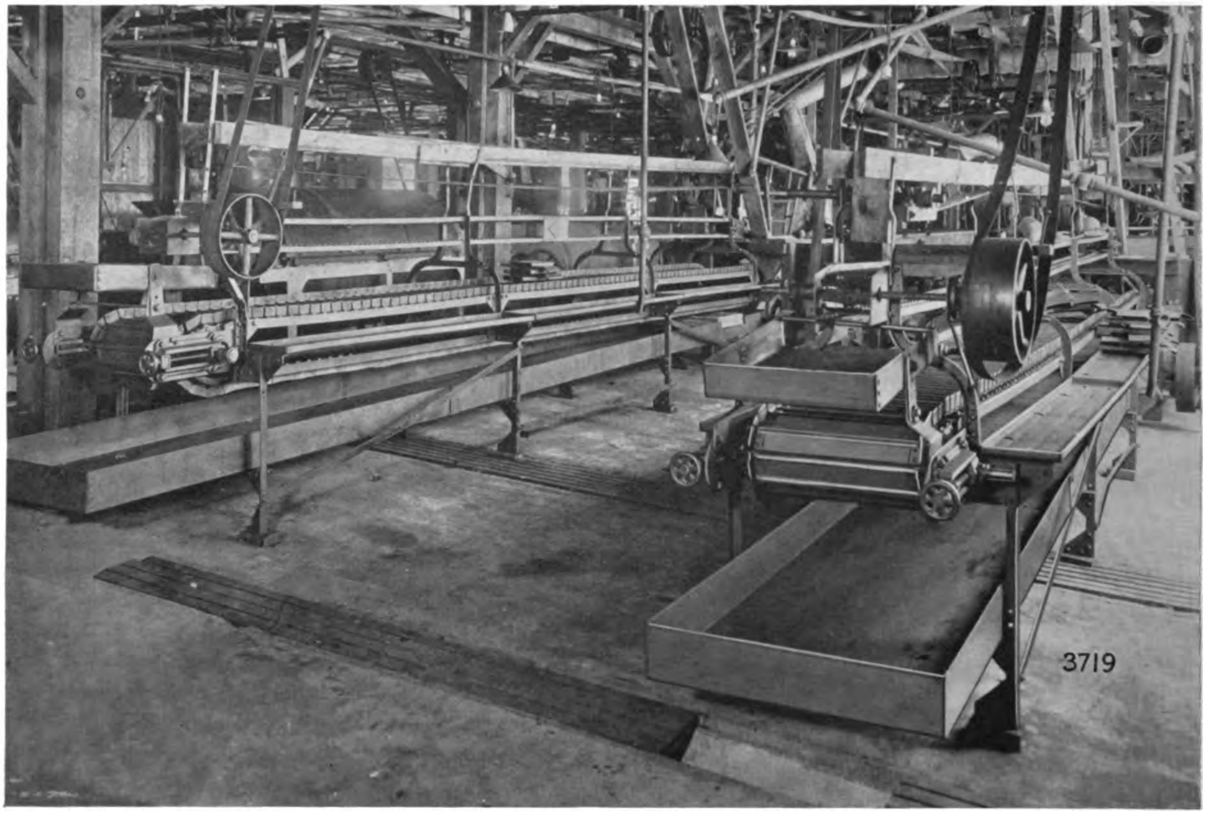
Table of Countershaft Extensions for Drive Pulleys

Diameter of countershaft	Extension	Size of Keyway	
		Width	Depth
1 3/16"	6"	5/16"	5/32"
1 7/16"	6"	3/8"	3/16"
1 15/16"	6"	1/2"	1/4"
2 7/16"	6"	5/8"	5/16"
2 11/16"	7"	11/16"	11/32"
2 15/16"	8"	3/4"	3/8"

If the operating conditions of a conveyor call for frequent stopping and starting under full load the horsepower listed in the tables should be increased 40%.

For separate motor drives use a 2 horsepower motor for all conveyors requiring less than 2 horsepower and a 3 horsepower motor for conveyors requiring between 2 and 3 horsepower.

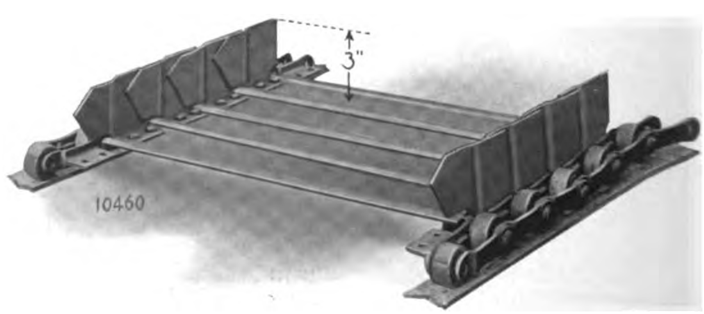
Steel Apron Conveyors



The smallest of Jeffrey Steel Apron Conveyors is especially adapted in many industries to the carrying of a constant stream of finished products from automatic machines, or for handling refuse, scraps, trimming, punchings, etc., from such machines.

Obtaining Long Service From Lightest Conveyors

UNDER the loadings noted in the Tables upon the opposite page the steel aprons on No. 9½ Special Malleable Roller Chains have their best service life in clean or somewhat dusty non-abrasive working conditions over periods of 4 to 6 hours daily or for 8 to 10 hours when handling proportionately lighter loads. The chains with their 950 lbs. working strength are firmly fixed to the No. 12 gauge steel aprons and No. 14 gauge retaining ends by means of bolts having lock washers, thus making light but very serviceable conveyors. Oil the chain joints occasionally.

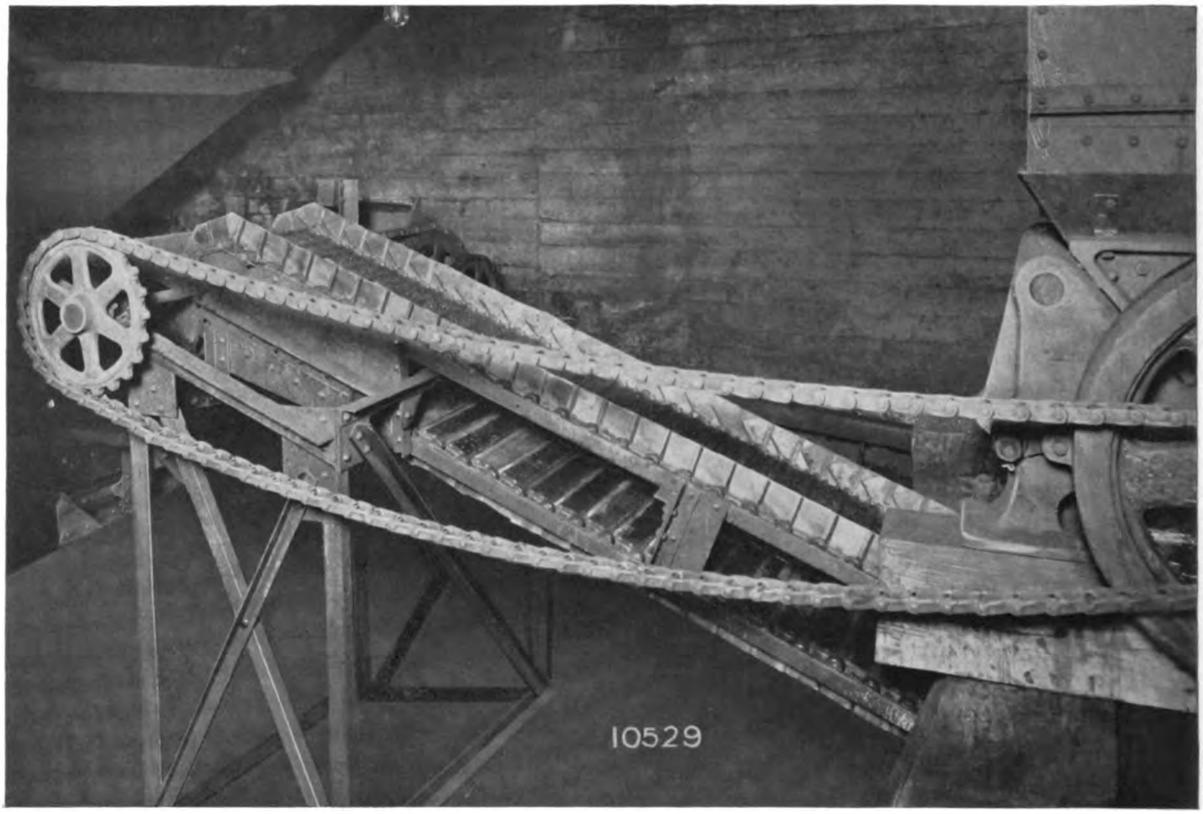


Specifications of Jeffrey Standard Steel Apron Conveyors
Using No. 9½ Special Malleable Roller Chain
Material Weighing Approximately 50 Pounds per Cubic Foot

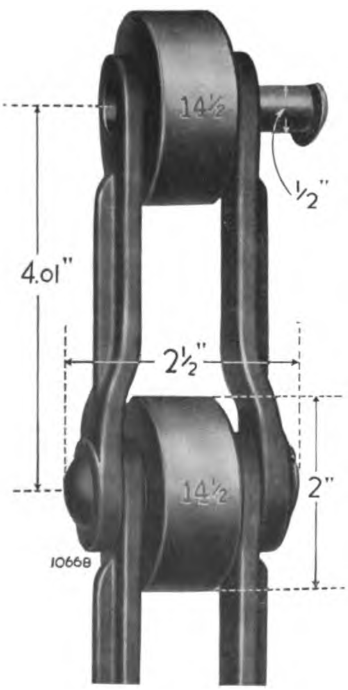
Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2189	2212	2235	2258	2281	2304	2327	2350	2373	2396	2419	2442	2465	2488	2511	2534
Size of Material																
Average Size of Material to be handled	3	4	7	9	3	4	7	9	3	4	7	9	3	4	7	9
Max. Size not to exceed 10% of Whole	6	8	14	18	6	8	14	18	6	8	14	18	6	8	14	18
Load in Lbs. per Foot on Conveyor	14	20	25	30	14	20	25	30	14	20	25	30	14	20	25	30
Capacity— Tons per Hr.	45	60	75	89	45	60	75	89	45	60	75	89	45	60	75	89
Width of Apron	18	24	30	36	18	24	30	36	18	24	30	36	18	24	30	36
Horse Power at Center Shaft	.68	.85	1.0	1.1	1.4	1.7	2.0	2.2	2.0	2.5	3.0	3.4	2.7	3.4	4.0	4.5
Head Shaft																
Diameter, In.	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$
Rev. per Minute	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Size Sprockets, Inches	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾
Diam. of Gear	17.84	17.84	17.84	17.84	17.84	17.84	17.84	17.84	17.84	17.84	19.91	19.91	19.91	19.91	19.91	19.91
Pitch of Gear	1	1	1	1	1	1	1	1	1	1	1¼	1¼	1¼	1¼	1¼	1¼
Face of Gear	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3
Counter Shaft																
Diameter, In.	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$
Rev. per Minute	140	140	140	140	140	140	140	140	140	140	133	133	133	133	133	133
Diam. of Pinion	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	6.01	6.01	6.01	6.01	6.01	6.01
Face of Pinion	2¾	2¾	2¾	2¾	2¾	2¾	2¾	2¾	2¾	2¾	3¼	3¼	3¼	3¼	3¼	3¼
Foot Shaft																
Diameter, In.	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$
Size Sprockets, Inches	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾
Approx. Shipping Weight—Lbs.																
Terminals, Complete	370	385	400	415	370	450	465	485	430	450	520	545	490	500	700	720
Apron Complete per Ft. Centers	36	42	48	54	36	42	48	54	36	42	48	54	36	42	48	54

For Erection Dimensions of the above Conveyors, see page 186.

Steel Apron Conveyors

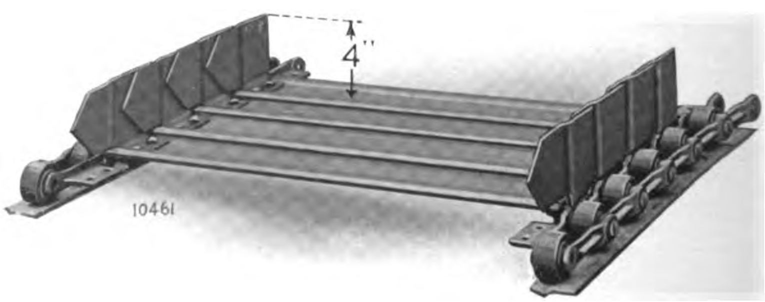


As the connecting link between various elevating and conveying units, Jeffrey Steel Apron Conveyors fit into many places which otherwise would be inaccessible by reason of building and pit constructions or the position of heavy machinery installations.



A Stronger Chain Makes a Longer Life Conveyor

NO. 14½ Malleable Roller Chains as applied to Jeffrey Steel Apron Conveyors are the next logical step for better service to the No. 9½ Chains just noted on page 170. With a working strength of 1600 lbs. as compared to 950 lbs., and also ½" steel pins and 2" diameter rollers as compared to ⅜" pins and 1½" rollers, the No. 14½ Chains are necessarily fitted to give about 50% longer service under the same loading and operating conditions as the No. 9½ Chains, or heavier loads for the same length of service. See Tables on opposite page. Machine bolts and lock washers fasten the 4" ends and aprons to the chains.



Steel Apron Conveyors

Specifications of Jeffrey Standard Steel Apron Conveyors Using No. 14½ Malleable Roller Chain

Material Weighing Approximately 50 Pounds per Cubic Foot

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2192	2215	2238	2261	2284	2307	2330	2353	2376	2399	2422	2445	2468	2491	2514	2537
Size of Material																
Average size of Material to be handled	3	4	7	9	3	4	7	9	3	4	7	9	3	4	7	9
Max. Size not to exceed 10% of Whole	6	8	14	18	6	8	14	18	6	8	14	18	6	8	14	18
Load in Lbs. per Foot on Conveyor	20	27	34	40	20	27	34	40	20	27	34	40	20	27	34	40
Capacity—Tons per Hour	60	80	101	120	60	80	101	120	60	80	101	120	60	80	101	120
Width of Apron	18	24	30	36	18	24	30	36	18	24	30	36	18	24	30	36
Horse Power at Center Shaft	.78	1.0	1.2	1.4	1.6	1.9	2.3	2.7	2.3	2.9	3.5	4	3.1	3.9	4.7	5.3
Head Shaft																
Diameter, Inches	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16
Rev. per Minute	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Size Sprockets, Inches	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½
Diameter of Gear	17.84	17.84	17.84	17.84	17.84	17.84	17.84	17.84	17.84	17.84	19.91	19.91	19.91	19.91	19.91	19.91
Pitch of Gear	1	1	1	1	1	1	1	1	1	1	1¼	1¼	1¼	1¼	1¼	1¼
Face of Gear	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3
Counter Shaft																
Diameter, Inches	1 3/16	1 3/16	1 3/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16
Rev. per Minute	133	133	133	133	133	133	133	133	133	133	127	127	127	127	127	127
Diameter of Pinion	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	6.01	6.01	6.01	6.01	6.01	6.01
Face of Pinion	2¾	2¾	2¾	2¾	2¾	2¾	2¾	2¾	2¾	2¾	3¼	3¼	3¼	3¼	3¼	3¼
Foot Shaft																
Diameter, Inches	1 3/16	1 3/16	1 3/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16
Size Sprockets, Inches	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½
Approx. Shipping Weight—Lbs.																
Terminals, Complete	405	420	435	505	455	470	490	505	455	470	545	560	510	525	710	730
Apron Complete per Foot Centers	38	44	52	56	38	44	52	56	38	44	52	56	38	44	52	56

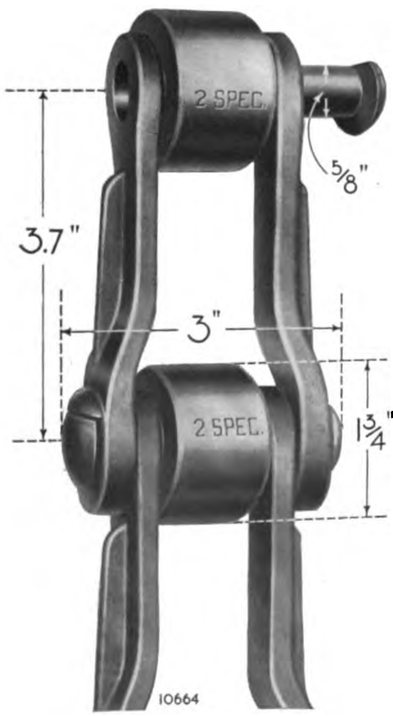
Material Weighing Approximately 100 Pounds per Cubic Foot

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2557	2577	2597	2617	2637	2657	2677	2697	2717	2737	2757	2777	2797	2817	2837	2857
Size of Material																
Average size of Material to be handled	3	4	7	9	3	4	7	9	3	4	7	9	3	4	7	9
Max. Size not to exceed 10% of Whole	6	8	14	18	6	8	14	18	6	8	14	18	6	8	14	18
Load in Lbs. per Foot on Conveyor	40	54	68	80	40	54	68	80	40	54	68	80	40	54	68	80
Capacity—Tons per Hour	120	160	202	240	120	160	202	240	120	160	202	240	120	160	202	240
Width of Apron	18	24	30	36	18	24	30	36	18	24	30	36	18	24	30	36
Horse Power at Center Shaft	1.1	1.3	1.6	1.9	2.2	2.7	3.2	3.7	3.2	4.0	4.8	5.6	4.2	5.3	6.4	7.5
Head Shaft																
Diameter, Inches	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	1 15/16	2 7/16	2 7/16
Rev. per Minute	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Size Sprockets, Inches	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½
Diameter of Gear	17.84	17.84	17.84	17.84	17.84	17.84	19.91	19.91	19.91	19.91	19.91	29.83	19.91	19.91	19.91	29.83
Pitch of Gear	1	1	1	1	1	1	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼
Face of Gear	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3
Counter Shaft																
Diameter, Inches	1 3/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 7/16	1 7/16	1 15/16	1 15/16
Rev. per Minute	133	133	133	133	133	133	127	127	127	127	127	190	127	127	127	190
Diameter of Pinion	5.12	5.12	5.12	5.12	5.12	5.12	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01
Face of Pinion	2¾	2¾	2¾	2¾	2¾	2¾	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼
Foot Shaft																
Diameter, Inches	1 3/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 7/16	1 7/16	1 15/16	1 15/16
Size Sprockets, Inches	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½
Aprox. Shipping Weight—Lbs.																
Terminals, Complete	405	470	495	505	455	470	545	560	510	525	545	820	510	525	710	820
Apron Complete per Foot Centers	38	44	52	56	38	44	52	56	38	44	52	56	38	44	52	56

For Erection Dimensions of the above Conveyors, see page 187.

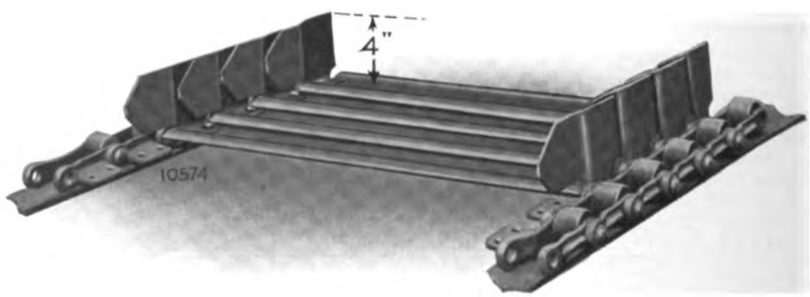
Steel Apron Conveyors

Operating from beneath a dump hopper, up a steep incline, and over a long sweeping curve into a storage building, the above Jeffrey Steel Apron Conveyor has long been in service to its full working strength.



The Step Between Light and Heavy Steel Aprons

NO. 2 Special Malleable Roller Chains meet the demands of many industries for a Steel Apron Conveyor where the operating conditions are comparatively rough and where dry materials of a dusty or slightly gritty nature are loaded upon the conveyor without perceptible shock or abrasion to the steel apron. This Conveyor is the intermediate step between the light conveyors of pages 170 and 172 and the first of the heavier conveyors, page 176. The apron and ends are the same as for the lighter conveyors while the chain with its 1850 lbs. working strength is of the same rugged construction and of about the same enduring qualities as the No. 126-C Chain used with the first of the heavier conveyors. Oil all chain joints at regular intervals.



Specifications of Jeffrey Standard Steel Apron Conveyors Using No. 2 Special Malleable Roller Chain

Material Weighing Approximately 50 Pounds per Cubic Foot

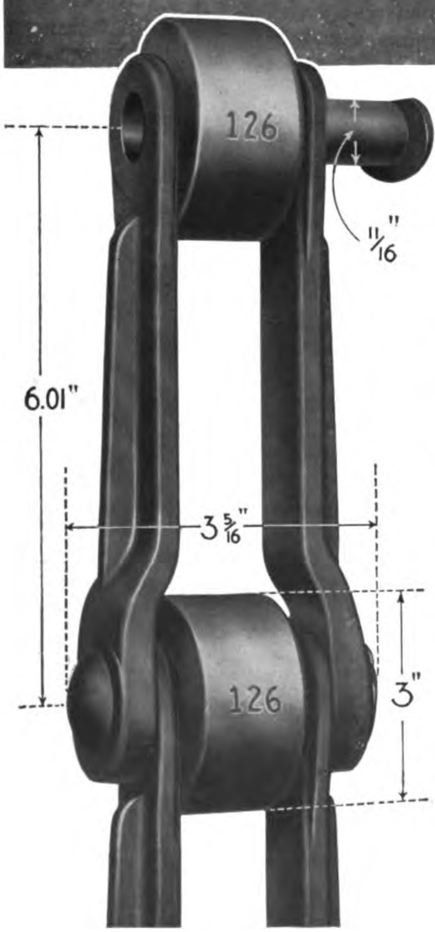
Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	**2195**	**2218**	**2241**	**2264**	**2287**	**2310**	**2333**	**2356**	**2379**	**2402**	**2425**	**2448**	**2471**	**2494**	**2517**	**2540**
Size of Material																
Average size of Material to be handled	3	4	7	9	3	4	7	9	3	4	7	9	3	4	7	9
Max. Size not to exceed 10% of Whole	6	8	14	18	6	8	14	18	6	8	14	18	6	8	14	18
Load in Lbs. per Foot on Conveyor	20	27	34	40	20	27	34	40	20	27	34	40	20	27	34	40
Capacity—Tons per Hour	60	80	101	120	60	80	101	120	60	80	101	120	60	80	101	120
Width of Apron	18	24	30	36	18	24	30	36	18	24	30	36	18	24	30	36
Horse Power at Center Shaft	1.0	1.2	1.4	1.6	1.9	2.3	2.8	3.2	2.9	3.5	4.1	4.8	3.9	4.8	5.5	6.3
Head Shaft																
Diameter, Inches	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	1 15/16	2 7/16	2 7/16	2 7/16
Rev. per Minute	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Size Sprockets, Inches	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾
Diameter of Gear	17.84	17.84	17.84	17.84	17.84	17.84	17.84	17.84	17.84	17.84	19.91	91.91	19.91	19.91	19.91	19.91
Pitch of Gear	1	1	1	1	1	1	1	1	1	1	1¼	1¼	1¼	1¼	1¼	1¼
Face of Gear	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3
Counter Shaft																
Diameter, Inches	1 3/16	1 3/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 7/16	1 15/16	1 15/16	1 15/16
Rev. per Minute	140	140	140	140	140	140	140	140	140	140	133	133	133	133	133	133
Diameter of Pinion	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	6.01	6.01	6.01	6.01	6.01	6.01
Face of Pinion	2¾	2¾	2¾	2¾	2¾	2¾	2¾	2¾	2¾	2¾	3¼	3¼	3¼	3¼	3¼	3¼
Foot Shaft																
Diameter, Inches	1 3/16	1 3/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 7/16	1 15/16	1 15/16	1 15/16
Size Sprockets, Inches	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾
Approx. Shipping Weight—Lbs.																
Terminals, Complete	420	440	515	535	475	495	515	535	475	495	750	775	530	720	750	775
Apron Complete per Foot Centers	54	60	68	76	54	60	68	76	54	60	68	76	54	60	68	76

Material Weighing Approximately 100 Pounds per Cubic Foot

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	**2560**	**2580**	**2600**	**2620**	**2640**	**2660**	**2680**	**2700**	**2720**	**2740**	**2760**	**2780**	**2800**	**2820**	**2840**	**2860**
Size of Material																
Average size of Material to be handled	3	4	7	9	3	4	7	9	3	4	7	9	3	4	7	9
Max. Size not to exceed 10% of Whole	6	8	14	18	6	8	14	18	6	8	14	18	6	8	14	18
Load in Lbs. per Foot on Conveyor	40	54	68	80	40	54	68	80	40	54	68	80	40	54	68	80
Capacity—Tons per Hour	120	160	202	240	120	160	202	240	120	160	202	240	120	160	202	240
Width of Apron	18	24	30	36	18	24	30	36	18	24	30	36	18	24	30	36
Horse Power at Center Shaft	1.3	1.5	1.8	2.1	2.5	3.1	3.7	4.2	3.7	4.6	5.5	6.4	4.9	6.1	7.4	8.5
Head Shaft																
Diameter, Inches	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	1 15/16	2 7/16	2 7/16	2 15/16
Rev. per Minute	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Size Sprockets, Inches	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾
Diameter of Gear	17.84	17.84	17.84	17.84	17.84	17.84	19.91	19.91	19.91	19.91	19.91	29.83	19.91	19.91	19.91	29.83
Pitch of Gear	1	1	1	1	1	1	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼
Face of Gear	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3
Counter Shaft																
Diameter, Inches	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 7/16	1 15/16	1 15/16	2 7/16
Rev. per Minute	140	140	140	140	140	140	133	133	133	133	133	200	133	133	133	200
Diameter of Pinion	5.12	5.12	5.12	5.12	5.12	5.12	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01
Face of Pinion	2¾	2¾	2¾	2¾	2¾	2¾	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼
Foot Shaft																
Diameter, Inches	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 7/16	1 15/16	1 15/32	2 7/16
Size Sprockets, Inches	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾
Approx. Shipping Weight—Lbs.																
Terminals, Complete	475	495	515	535	475	495	570	595	530	550	750	835	530	720	750	1050
Apron Complete per Foot Centers	54	60	68	76	54	60	68	76	54	60	68	76	54	60	68	76

For Erection Dimensions of the above Conveyors, see page 188.

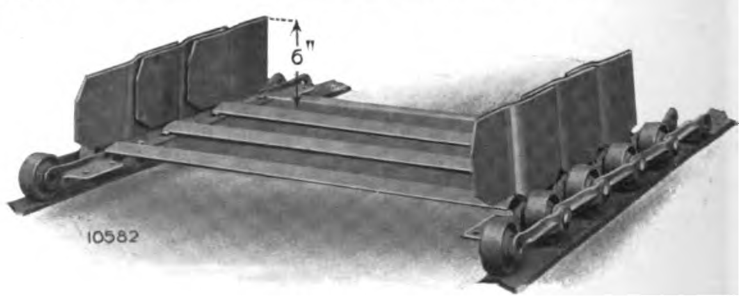
Steel Apron Conveyors



With their overlapping continuous carrying surfaces and over lapping steel retaining ends, Jeffrey Steel Apron Conveyors are without question one of the most reliable and durable means on the market today for the handling of large quantities of loose materials.

The Jeffrey General-Service Steel Apron Conveyor Satisfies

NO. 126-C Malleable Roller Chain with 3″ diameter rollers, $\frac{11}{16}$″ steel rivet pins, and 3100 lbs. working strength introduces Jeffrey General Service Steel Apron Conveyors. The large rollers not only make a smooth and easy running chain but also one which is well fitted to the $\frac{3}{16}$″ steel carrying surfaces of the 18″, 24″, 30″ and 48″ standard widths of this very durable conveyor. Note in the Tables upon the opposite page the wide range of "Maximum" and "Average" sizes of materials which these conveyors will handle. Scores of these General Service Aprons are daily giving excellent 8 to 10 hour service under ordinary flow loading conditions in clean, dusty, or somewhat gritty conditions. Lubricate the chains at regular intervals with a fluid grease or heavy oil.



Specifications of Jeffrey Standard Steel Apron Conveyors Using No. 126-C Malleable Roller Chain

Material Weighing Approximately 50 Pounds per Cubic Foot

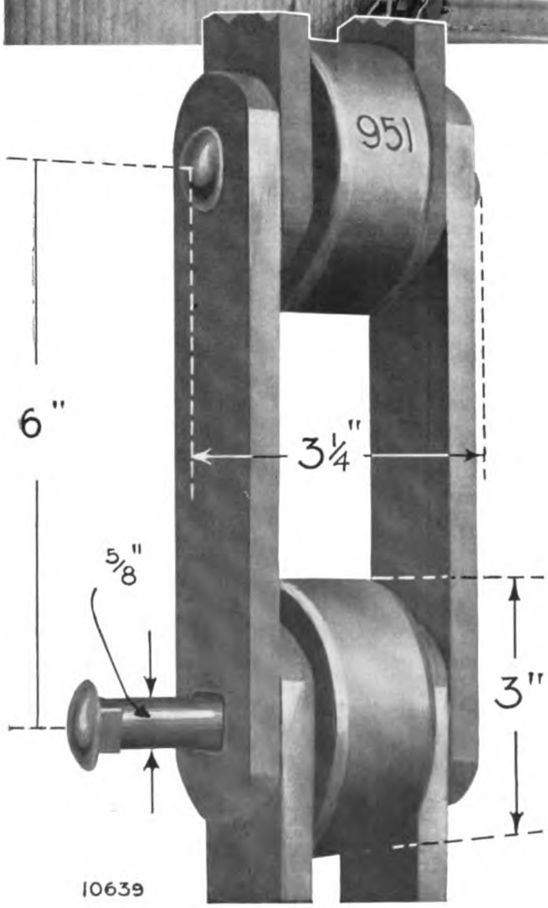
Length of Conveyor	0 to 25 ft. Centers					26 to 50 ft. Centers					51 to 75 ft. Centers					76 to 100 ft. Centers				
No. of Conveyor	2197	2198	2221	2244	2267	2289	2290	2313	2336	2359	2381	2382	2405	2428	2451	2473	2474	2497	2520	2543
Size of Material																				
Average size to be handled	3½	4	7	9	14	3½	4	7	9	14	3½	4	7	9	14	3½	4	7	9	14
Max. Size not to exceed 10% of Whole	7	8	14	18	24	7	8	14	18	24	7	8	14	18	24	7	8	14	18	24
Load Lbs. per Ft. on Conveyor	30	40	50	60	80	30	40	50	60	80	30	40	50	60	80	30	40	50	60	80
Capacity–Tons per Hr.	100	120	149	180	240	100	120	149	180	240	100	120	149	180	240	100	120	149	180	240
Width of Apron	18	24	30	36	48	18	24	30	36	48	18	24	30	36	48	18	24	30	36	48
H. P. at Ctr. Shaft	1.5	1.8	2.0	2.4	2.9	3.0	3.6	4.2	4.8	5.9	4.5	5.3	6.2	7.1	8.8	6.0	7.2	8.3	9.5	11.8
Head Shaft																				
Diameter, Inches	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16
Rev. per Minute	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
Size Sprockets, In.	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼
Diameter of Gear	17.84	17.84	17.84	17.84	17.84	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	35.82	35.82
Pitch of Gear	1	1	1	1	1	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1½	1½
Face of Gear	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4
Counter Shaft																				
Diameter, Inches	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16
Rev. per Minute	115	115	115	115	115	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165
Diam. of Pinion	5.12	5.12	5.12	5.12	5.12	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	7.22	7.22
Face of Pinion	2¾	2¾	2¾	2¾	2¾	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	4½	4½
Foot Shaft																				
Diameter, Inches	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16
Size Sprockets, In.	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼
Approx. Shpg. Wt.–lbs.																				
Terminals, Complete	565	595	625	645	700	680	710	935	965	1035	865	900	935	1115	1175	995	1030	1105	1275	1435
Apron Complete per Foot Centers	80	90	102	110	132	80	90	102	110	132	80	90	102	110	132	80	90	102	110	132

Material Weighing Approximately 100 Pounds per Cubic Foot

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2563	2583	2603	2623	2643	2663	2683	2703	2723	2743	2763	2783	2803	2823	2843	2863
Size of Material																
Average size of Material to be handled	4	7	9	14	4	7	9	14	4	7	9	14	4	7	9	14
Max. Size not to exceed 10% of Whole	8	14	18	24	8	14	18	24	8	14	18	24	8	14	18	24
Load in Lbs. per Foot on Conveyors	80	100	120	160	80	100	120	160	80	100	120	160	80	100	120	160
Capacity—Tons per Hour	240	298	360	480	240	298	360	480	240	298	360	480	240	298	360	480
Width of Apron	24	30	36	48	24	30	36	48	24	30	36	48	24	30	36	48
Horse Power at Center Shaft	2.3	2.8	3.2	4.0	4.7	5.5	6.4	8.1	7.0	8.3	9.6	12.1	9.3	11.0	12.8	16.2
Head Shaft																
Diameter, Inches	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	3 7/16
Rev. per Minute	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
Size Sprockets, Inches	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼
Diameter of Gear	17.84	17.84	29.83	29.83	29.83	29.83	35.82	35.82	35.82	35.82	35.82	40.12	35.82	35.82	35.82	40.12
Pitch of Gear	1	1	1¼	1¼	1¼	1¼	1½	1½	1½	1½	1½	1½	1½	1½	1½	1½
Face of Gear	2	2	3	3	3	3	4	4	4	4	4	4	4	4	4	4
Counter Shaft																
Diameter, Inches	1 7/16	1 7/16	1 7/16	1 15/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 11/16
Rev. per Minute	115	115	165	165	165	165	165	165	165	165	165	185	165	165	165	185
Diameter of Pinion	5.12	5.12	6.01	6.01	6.01	6.01	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22
Face of Pinion	2¾	2¾	3¼	3¼	3¼	3¼	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½
Foot Shaft																
Diameter, Inches	1 7/16	1 7/16	1 7/16	1 15/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16
Size Sprockets, Inches	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼
Approx. Shipping Weight—Lbs.																
Terminals, Complete	595	625	760	1125	710	935	1125	1195	1020	1045	1345	1495	1215	1290	1350	1675
Apron Complete per Foot Centers	90	102	110	132	90	102	110	132	90	102	110	132	90	102	110	132

For Erection Dimensions of the above Conveyors, see page 189.

Steel Apron Conveyors



On account of the retarding effect of the corrugated carrying surfaces of Jeffrey Steel Aprons, materials are often conveyed up steep inclines approximating the natural coning angle of the material itself.

Hardened Pins and Thimbles Add to Service Qualities

THE No. 951 Chain is practically of all-steel construction thus making an ideal apron equipment when assembled to $\frac{3}{16}$″ steel carrying flights and 6″ high No. 10 gauge retaining ends. This chain with its 3750 lbs. working strength is of the thimble type, hardened steel bushings being furnished upon which revolve the hard cast iron rollers and thru which pass hardened steel pins, thereby giving the chain very high wearing qualities, and making it especially fitted to long hours of service, in somewhat abrasive conditions. This is especially true when operating under the ordinary flow of loading, without heavy impact, such as is common to Fertilizer Plants, Cement Mills, etc. Lubricate all chain joints at regular intervals with a heavy oil.

Steel Apron Conveyors

Specifications of Jeffrey Standard Steel Apron Conveyors Using No. 951 Steel Thimble Roller Chain

Material Weighing Approximately 50 Pounds per Cubic Foot

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2201	2224	2247	2270	2293	2316	2339	2362	2385	2408	2431	2454	2477	2500	2523	2546
Size of Material																
Average size of Material to be handled	4	7	9	14	4	7	9	14	4	7	9	14	4	7	9	14
Max. Size not to exceed 10% of Whole	8	14	18	24	8	14	18	24	8	14	18	24	8	14	18	24
Load in Lbs. per Foot on Conveyor	40	50	60	80	40	50	60	80	40	50	60	80	40	50	60	80
Capacity—Tons per Hour	120	149	180	240	120	149	180	240	120	149	180	240	120	149	180	240
Width of Apron	24	30	36	48	24	30	36	48	24	30	36	48	24	30	36	48
Horse Power at Center Shaft	1.6	1.8	2.1	2.6	3.2	3.7	4.2	5.1	4.8	5.5	6.3	7.8	6.4	7.3	8.3	10.3
Head Shaft																
Diameter, Inches	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16
Rev. per Minute	33	33	30	33	33	33	33	33	33	33	33	33	33	33	33	33
Size Sprockets, Inches	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼
Diameter of Gear	17.84	17.84	17.84	17.84	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.33	29.33	29.83	35.82	35.82
Pitch of Gear	1	1	1	1	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1½	1½
Face of Gear	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4
Counter Shaft																
Diameter, Inches	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16
Rev. Per Minute	115½	115½	115½	115½	165	165	165	165	165	165	165	165	165	165	165	165
Diameter of Pinion	5.12	5.12	5.12	5.12	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	7.22	7.22
Face of Pinion	2¾	2¾	2¾	2¾	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	4½	4½
Foot Shaft																
Diameter, Inches	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16
Size Sprockets, Inches	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼
Approx. Shipping Weight—Lbs.																
Terminals, Complete	605	625	640	695	705	860	895	1015	875	915	1095	1175	1015	1060	1235	1400
Apron Complete per Foot Centers	102	114	122	144	102	114	122	144	102	114	122	144	102	114	122	144

Material Weighing Approximately 100 Pounds per Cubic Foot

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2566	2586	2606	2626	2646	2666	2686	2706	2726	2746	2766	2786	2806	2826	2846	2866
Size of Material																
Average size of Material to be handled	4	7	9	14	4	7	9	14	4	7	9	14	4	7	9	14
Max. Size not to exceed 10% of Whole	8	14	18	24	8	14	18	24	8	14	18	24	8	14	18	24
Load in Lbs. per Foot on Conveyor	80	100	120	160	80	100	120	160	80	100	120	160	80	100	120	160
Capacity—Tons per Hour	240	298	360	480	240	298	360	480	240	298	360	480	240	298	360	480
Width of Apron	24	30	36	48	24	30	36	48	24	30	36	48	24	30	36	48
Horse Power at Center Shaft	2.1	2.4	2.8	3.5	4.1	4.8	5.5	7.0	6.2	7.2	8.3	10.5	8.2	9.6	11.1	13.9
Head Shaft																
Diameter, Inches	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	3 7/16
Rev. per Minute	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
Size Sprockets, Inches	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼
Diameter of Gear	17.84	17.84	29.83	29.83	29.83	29.83	35.82	35.82	35.82	35.82	35.82	40.12	35.82	35.82	35.82	40.12
Pitch of Gear	1	1	1¼	1¼	1¼	1¼	1½	1½	1½	1½	1½	1½	1½	1½	1½	1½
Face of Gear	2	2	3	3	3	3	4	4	4	4	4	4	4	4	4	4
Counter Shaft																
Diameter, Inches	1 7/16	1 7/16	1 7/16	1 15/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 11/16
Rev. per Minute	115	115	165	165	165	165	165	165	165	165	165	185	165	165	165	165
Diameter of Pinion	5.12	5.12	6.01	6.01	6.01	6.01	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22
Face of Pinion	2¾	2¾	3¼	3¼	3¼	3¼	4½	4½	4½	4½	4½	4½	4½	4½	4½	4½
Foot Shaft																
Diameter, Inches	1 7/16	1 7/16	1 7/16	1 15/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16
Size Sprockets, Inches	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼
Approx. Shipping Weight—Lbs.																
Terminals, Complete	605	625	775	1050	705	860	1140	1210	1075	1110	1360	1505	1245	1320	1360	1690
Apron Complete per Foot Centers	102	114	122	144	102	114	122	144	102	114	122	144	102	114	122	144

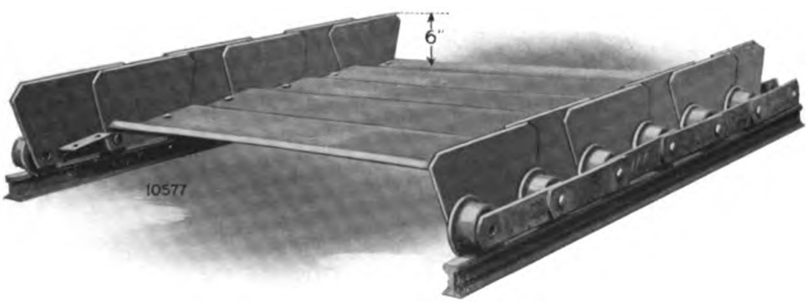
For Erection Dimensions of the above Conveyors, see page 190.

Steel Apron Conveyors

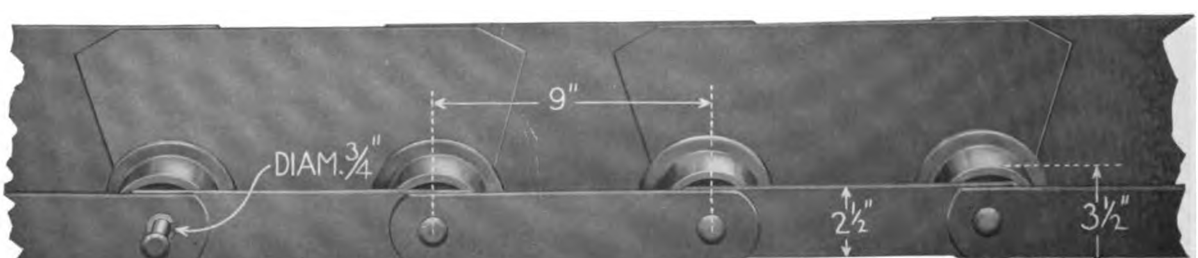
Here a Jeffrey Steel Apron in a Coal Tipple forms a combined Picking Table and Loading Boom. The picking table portion in the left background is stationary while the loading boom part in the foreground sloping down to the railroad tracks below is hinged to the picking table so as to be quickly raised and lowered into cars, thereby saving the breakage of lumps common to older methods of loading.

Designed Especially For Coal Tipple Service

THIS conveyor with its 9″ pitch No. 809 chain of 4500 lbs. working strength, ¼″ retaining ends and ¼″ apron in 30″, 36″, 48″ and 60″ widths is the first of Jeffrey "heavier" type of steel aprons.



It is also the first of Jeffrey Aprons where the side bars of the Chain are extended to form the retaining ends of the Apron, thereby making a very rigid conveyor requiring little head room and one especially suited to meet standard coal tipple service.



Steel Apron Conveyors

Specifications of Jeffrey Standard Steel Apron Conveyors Using No. 809 Steel Thimble Roller Chain

Material Weighing Approximately 50 Pounds per Cubic Foot

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2204	2227	2250	2273	2296	2319	2342	2365	2388	2411	2434	2457	2480	2503	2526	2549
Size of Material																
Average size of Material to be handled	7	9	14	14	7	9	14	14	7	9	14	14	7	9	14	14
Max. Size not to exceed 10% of Whole	14	18	24	24	14	18	24	24	14	18	24	24	14	18	24	24
Load in Lbs. per Foot on Conveyor	50	60	80	100	50	60	80	100	50	60	80	100	50	60	80	100
Capacity—Tons per Hour	149	180	240	300	149	180	240	300	149	180	240	300	149	180	240	300
Width of Apron	30	36	48	60	30	36	48	60	30	36	48	60	30	36	48	60
Horse Power at Center Shaft	2.3	2.5	3.1	3.5	4.7	5.1	6.1	7.1	7.0	7.7	9.3	10.6	9.3	10.2	12.2	14.2
Head Shaft																
Diameter, Inches	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	3 7/16	3 7/16	3 7/16
Rev. per Minute	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Size Sprockets, Inches	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Diameter of Gear	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	35.82	35.82	35.82	35.82	35.82	36.78	36.78
Pitch of Gear	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1½	1½	1½	1½	1½	1¾	1¾
Face of Gear	3	3	3	3	3	3	3	3	3	4	4	4	4	4	5½	5½
Counter Shaft																
Diameter, Inches	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 11/16	2 11/16	2 11/16
Rev. per Minute	110	110	110	110	110	110	110	110	110	110	110	110	110	110	103	103
Diameter of Pinion	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	7.22	7.22	7.22	7.22	7.22	7.86	7.86
Face of Pinion	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	4½	4½	4½	4½	4½	6	6
Foot Shaft																
Diameter, Inches	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16
Size Sprockets, Inches	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Approx. Shipping Weight—Lbs.																
Terminals, Complete	1225	1265	1570	1670	1415	1465	1740	1850	1565	1780	1980	2095	1800	2015	2355	2485
Apron Complete per Foot Centers	190	204	234	262	190	204	234	262	190	204	234	262	190	204	234	262

Material Weighing Approximately 100 Pounds per Cubic Foot

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2569	2589	2609	2629	2649	2669	2689	2709	2729	2749	2769	2789	2809	2829	2849	2869
Size of Material																
Average size of Material to be handled	7	9	14	14	7	9	14	14	7	9	14	14	7	9	14	14
Max. Size not to exceed 10% of Whole	14	18	24	24	14	18	24	24	14	18	24	24	14	18	24	24
Load in Lbs. per Foot on Conveyor	100	120	160	200	100	120	160	200	100	120	160	200	100	120	160	200
Capacity—Tons per Hour	298	360	480	600	298	360	480	600	298	360	480	600	298	360	480	600
Width of Apron	30	36	48	60	30	36	48	60	30	36	48	60	30	36	48	60
Horse Power at Center Shaft	2.9	3.2	4.0	4.7	5.8	6.5	8.0	9.4	8.7	9.7	11.9	14.1	11.5	13.0	15.9	18.8
Head Shaft																
Diameter, Inches	2 7/16	2 7/16	2 7/16	2 15/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	3 7/16	3 7/16	3 7/16	3 7/16	3 7/16	3 15/16
Rev. per Minute	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Size Sprockets, Inches	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Diameter of Gear	29.83	29.83	29.83	29.83	35.82	35.82	35.82	40.12	35.82	35.82	35.82	36.78	35.82	40.12	36.78	36.78
Pitch of Gear	1¼	1¼	1¼	1¼	1½	1½	1½	1½	1½	1½	1½	1¾	1½	1½	1¾	1¾
Face of Gear	3	3	3	3	4	4	4	4	4	4	4	5½	4	4	5½	5½
Counter Shaft																
Diameter, Inches	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 11/16	2 11/16	2 11/16	2 11/16	2 11/16	2 15/16
Rev. per Minute	110	110	110	110	110	110	110	123	110	110	110	103	110	123	103	103
Diameter of Pinion	6.01	6.01	6.01	6.01	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.86	7.22	7.22	7.86	7.86
Face of Pinion	3¼	3¼	3¼	3¼	4½	4½	4½	4½	4½	4½	4½	6	4½	4½	6	6
Foot Shaft																
Diameter, Inches	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16
Size Sprockets, Inches	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Approx. Shipping Weight—Lbs.																
Terminals, Complete	1415	1465	1510	1935	1635	1855	1980	2155	1800	1855	2150	2485	1955	2075	2355	2920
Apron Complete per Foot Centers	190	204	234	262	190	204	234	262	190	204	234	262	190	204	234	262

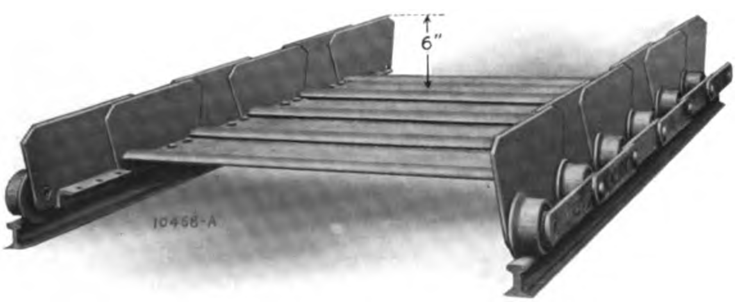
For Erection Dimensions of the above Conveyors, see page 191.

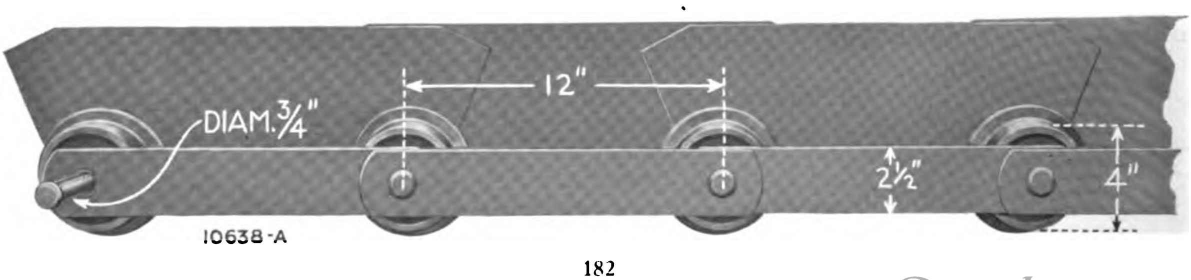
Steel Apron Conveyors

As proof of the high service qualities of Steel Apron Conveyors there are shown above three Jeffrey Aprons in a large steel tipple where thousands of tons of coal are yearly prepared for the market. These conveyors have long since more than paid for themselves by a completely satisfactory performance.

The Next Step to Longer Service

THE No. 276 Chain of 5200 lbs. working strength shown here is the next step for hard wearing service to the No. 809 Chain of page 180. This is obtained by a somewhat wider chain, also 4" flanged rollers instead of 3½" rollers and side bars of $\frac{5}{16}$" instead of ¼" thickness. This difference means about 25% greater wearing qualities for the same loading. Regular oiling of the pins and rollers means a long life.





Steel Apron Conveyors

Specifications of Jeffrey Standard Steel Apron Conveyors Using No. 276 Steel Thimble Roller Chain

Material Weighing Approximately 50 Pounds per Cubic Foot

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2206	2229	2252	2275	2298	2321	2344	2367	2390	2413	2436	2459	2482	2505	2528	2551
Size of Material																
Average size of Material to be handled	7	9	14	14	7	9	14	14	7	9	14	14	7	9	14	14
Max. Size not to exceed 10% of Whole	14	18	24	24	14	18	24	24	14	18	24	24	14	18	24	24
Load in Lbs. per Foot on Conveyor	50	60	80	100	50	60	80	100	50	60	80	100	50	60	80	100
Capacity—Tons per Hour	149	180	240	300	149	180	240	300	149	180	240	300	149	180	240	300
Width of Apron	30	36	48	60	30	36	48	60	30	36	48	60	30	36	48	60
Horse Power at Center Shaft	1.9	2.1	2.6	3.0	3.7	4.2	5.1	6.1	6.0	6.3	7.7	9.1	7.5	8.4	10.2	12
Head Shaft																
Diameter, Inches	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	3 7/16	3 7/16	3 7/16
Rev. per Minute	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3
Size Sprockets, Inches	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Diameter of Gear	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	35.82	35.82	35.82	35.82	35.82	36.78	36.78
Pitch of Gear	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 3/4	1 3/4
Face of Gear	3	3	3	3	3	3	3	3	3	4	4	4	4	4	5 1/2	5 1/2
Counter Shaft																
Diameter, Inches	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 11/16	2 11/16	2 11/16
Rev. per Minute	83	83	83	83	83	83	83	83	83	83	83	83	83	83	78	78
Diameter of Pinion	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	7.22	7.22	7.22	7.22	7.22	7.86	7.86
Face of Pinion	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	6	6
Foot Shaft																
Diameter, Inches	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16
Size Sprockets, Inches	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Approx. Shipping Weight—Lbs.																
Terminals, Complete	1535	1590	1965	2020	1730	1790	2065	2190	1870	2095	2315	2435	2105	2320	2660	2815
Apron Complete per Foot Centers	140	154	180	206	140	154	180	206	140	154	180	206	140	154	180	206

Material Weighing Approximately 100 Pounds per Cubic Foot

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2571	2591	2611	2631	2651	2671	2691	2711	2731	2751	2771	2791	2811	2831	2851	2871
Size of Material																
Average size of Material to be handled	7	9	14	14	7	9	14	14	7	9	14	14	7	9	14	14
Max. Size not to exceed 10% of Whole	14	18	24	24	14	18	24	24	14	18	24	24	14	18	24	24
Load in Lbs. per Foot on Conveyor	100	120	160	200	100	120	160	200	100	120	160	200	100	120	160	200
Capacity—Tons per Hour	298	360	480	600	298	360	480	600	298	360	480	600	298	360	480	600
Width of Apron	30	36	48	60	30	36	48	60	30	36	48	60	30	36	48	60
Horse Power at Center Shaft	2.4	2.8	3.7	4.2	4.9	5.6	7.0	8.4	7.3	8.4	10.5	12.5	9.7	11.1	13.9	16.7
Head Shaft																
Diameter, Inches	2 7/16	2 7/16	2 7/16	2 15/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	3 7/16	3 7/16	3 7/16	3 7/16	3 7/16	3 15/16
Rev. per Minute	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 1/4	16 2/3	16 1/4	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3
Size Sprockets, Inches	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Diameter of Gear	29.83	29.83	29.83	29.83	35.82	35.82	35.82	40.12	35.82	35.82	35.82	36.78	35.82	40.12	36.78	36.78
Pitch of Gear	1 1/4	1 1/4	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 3/4	1 1/2	1 1/2	1 3/4	1 3/4
Face of Gear	3	3	3	3	4	4	4	4	4	4	4	5 1/2	4	4	5 1/2	5 1/2
Counter Shaft																
Diameter, Inches	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 11/16	2 11/16	2 11/16	2 11/16	2 11/16	2 15/16
Rev per Minute	83	83	83	83	83	83	83	93	83	83	83	78	83	93	78	78
Diameter of Pinion	6.01	6.01	6.01	6.01	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.86	7.22	7.22	7.86	7.86
Face of Pinion	3 1/4	3 1/4	3 1/4	3 1/4	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	6	4 1/2	4 1/2	6	6
Foot Shaft																
Diameter, Inches	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16
Size Sprockets, Inches	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Approx. Shipping Weight—Lbs.																
Terminals, Complete	1730	1790	1965	2280	1890	2180	2315	2500	2105	2180	2465	2815	2245	2380	2670	3230
Apron Complete per Foot Centers	140	154	180	206	140	154	180	206	140	154	180	206	140	154	180	206

For Erection Dimensions of the above Conveyors, see page 192.

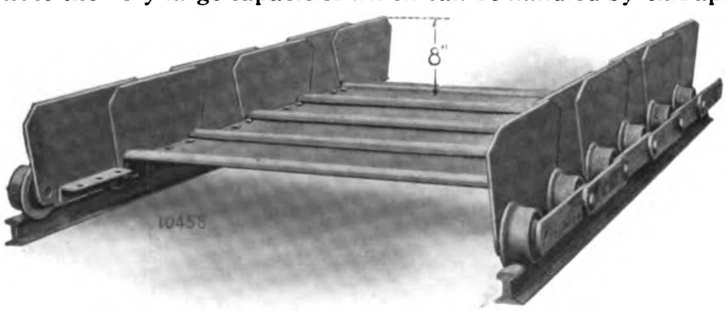
Steel Apron Conveyors

A view looking toward the raising and lowering end of a hinged Car Loading Boom formed of a Jeffrey Steel Apron Conveyor. The car dimly outlined below has just been filled and the boom raised preparatory to the placing of another empty car.

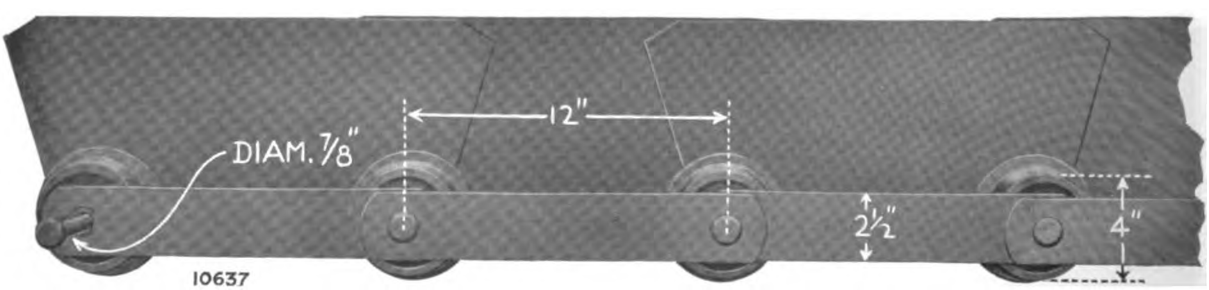
Longest Life of Aprons Assured by Chains of Greatest Strength and Durability

IN this conveyor our No. 180 Steel Thimble Roller Chain with its 4″ diameter rollers, ⅞″ steel pins and hardened steel bushings has its ⅜″ side bars extended to form the 8″ retaining ends of the Aprons.

The complete conveyor in 36″, 42″, 48″ and 60″ widths of ¼″ steel plate, is therefore the strongest and most durable of Jeffrey Standard Steel Apron Conveyors. In the Tables upon the opposite page note the very large capacities which can be handled by this apron with its No. 180 Chain as compared to the very popular No. 809 and No. 276 Chains and Aprons of pages 180 and 182.



All three of these chains are giving excellent service in many indusrties where the handling of loose bulk materials of a non-gritty or semi-gritty nature must be an assured factor to the continuous performance of the factory, storage plant or mine.



Specifications of Jeffrey Standard Steel Apron Conveyors Using No. 180 Steel Thimble Roller Chain

Material Weighing Approximately 50 Pounds per Cubic Foot

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	**2208**	**2231**	**2254**	**2277**	**2300**	**2323**	**2346**	**2369**	**2392**	**2415**	**2438**	**2461**	**2484**	**2507**	**2530**	**2553**
Size of Material																
Average size of Material to be handled	9	10	14	14	9	10	14	14	9	10	14	14	9	10	14	14
Max. Size not to exceed 10% of Whole	18	20	24	24	18	20	24	24	18	20	24	24	18	20	24	24
Load in Lbs. per Foot on Conveyor	80	92	106	132	80	92	106	132	80	92	106	132	80	92	106	132
Capacity—Tons per Hour	240	276	317	396	240	276	317	396	240	276	317	396	240	276	317	396
Width of Apron	36	42	48	60	36	42	48	60	36	42	48	60	36	42	48	60
Horse Power at Center Shaft	2.6	2.8	3.1	3.6	5.0	5.6	6.1	7.2	7.5	8.4	9.2	10.8	10	11.2	12.2	14.4
Head Shaft																
Diameter, Inches	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	3 7/16	3 7/16	3 7/16	3 7/16	3 15/16
Rev. per Minute	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3
Size Sprockets, Inches	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Diameter of Gear	29.83	29.83	29.83	29.83	29.83	29.83	29.83	35.82	35.82	35.82	35.82	35.82	35.82	36.78	36.78	36.78
Pitch of Gear	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 3/4	1 3/4	1 3/4
Face of Gear	3	3	3	3	3	3	3	4	4	4	4	4	4	5 1/2	5 1/2	5 1/2
Counter Shaft																
Diameter, Inches	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 11/16	2 11/16	2 11/16	2 11/16	2 15/16
Rev. per Minute	83	83	83	83	83	83	83	83	83	83	83	83	83	78	78	78
Diameter of Pinion	6.01	6.01	6.01	6.01	6.01	6.01	6.01	7.22	7.22	7.22	7.22	7.22	7.22	7.86	7.86	7.86
Face of Pinion	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	6	6	6
Foot Shaft																
Diameter, Inches	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16
Size Sprockets, Inches	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Approx. Shipping Weight—Lbs.																
Terminals, Complete	1635	1910	1965	2090	1855	2065	2125	2505	2235	2305	2378	2680	2385	2665	2730	3300
Apron Complete per Foot Centers	174	188	200	228	174	188	200	228	174	188	200	228	174	188	200	228

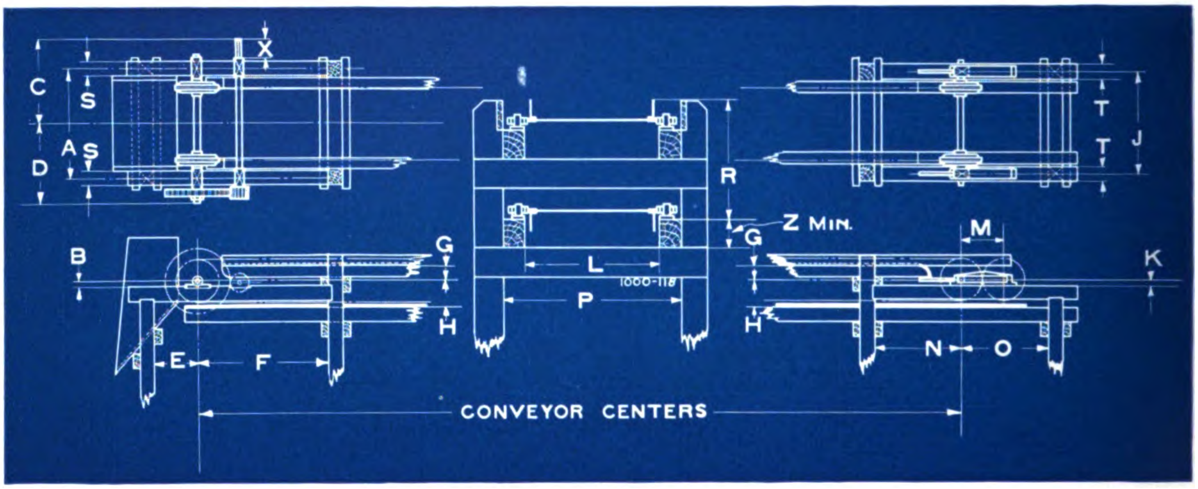
Material Weighing Approximately 100 Pounds per Cubic Foot

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	**2573**	**2593**	**2613**	**2633**	**2653**	**2673**	**2693**	**2713**	**2733**	**2753**	**2773**	**2793**	**2813**	**2833**	**2853**	**2873**
Size of Material																
Average size of Material to be handled	9	10	14	14	9	10	14	14	9	10	14	14	9	10	14	14
Max. Size not to exceed 10% of Whole	18	20	24	24	18	20	24	24	18	20	24	24	18	20	24	24
Load in Lbs. per Foot on Conveyor	160	184	211	266	160	184	211	266	160	184	211	266	160	184	211	266
Capacity—Tons per Hour	480	552	634	792	480	552	634	792	480	552	634	792	480	552	634	792
Width of Apron	36	42	48	60	36	42	48	60	36	42	48	60	36	42	48	60
Horse Power at Center Shaft	3.4	3.9	4.3	5.2	6.9	7.7	8.5	10.3	10.3	11.5	12.8	15.4	13.7	15.3	17.0	20.6
Head Shaft																
Diameter, Inches	2 7/16	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	3 7/16	3 7/16	3 7/16	3 7/16	3 7/16	3 7/16	3 7/16	3 15/16	3 15/16
Rev. per Minute	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3
Size Sprockets, Inches	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Diameter of Gear	29.83	29.83	29.83	29.83	35.82	35.82	40.12	40.12	36.78	36.78	36.78	36.78	36.78	36.78	36.78	36.78
Pitch of Gear	1 1/4	1 1/4	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	1 1/2	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4
Face of Gear	3	3	3	3	4	4	4	4	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2
Counter Shaft																
Diameter, Inches	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 11/16	2 11/16	2 11/16	2 11/16	2 11/16	2 11/16	2 11/16	2 15/16	2 15/16
Rev. per Minute	83	83	83	83	83	83	93	93	78	78	78	78	78	78	78	78
Diameter of Pinion	6.01	6.01	6.01	6.01	7.22	7.22	7.22	7.22	7.86	7.86	7.86	7.86	7.86	7.86	7.86	7.86
Face of Pinion	3 1/4	3 1/4	3 1/4	3 1/4	4 1/2	4 1/2	4 1/2	4 1/2	6	6	6	6	6	6	6	6
Foot Shaft																
Diameter, Inches	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16	2 15/16
Size Sprockets, Inches	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Approx. Shipping Weight—Lbs.																
Terminals, Complete	1855	1910	1965	2345	2235	2305	2430	2740	2600	2665	2730	2885	2600	2665	3130	3300
Apron Complete per Foot Centers	174	188	200	228	174	188	200	228	174	188	200	228	174	188	200	228

For Erection Dimensions of the above Conveyors, see page 193.

Steel Apron Conveyors

General Dimensions of Jeffrey Standard Steel Apron Conveyors Using No. 9½ Special Malleable Roller Chain

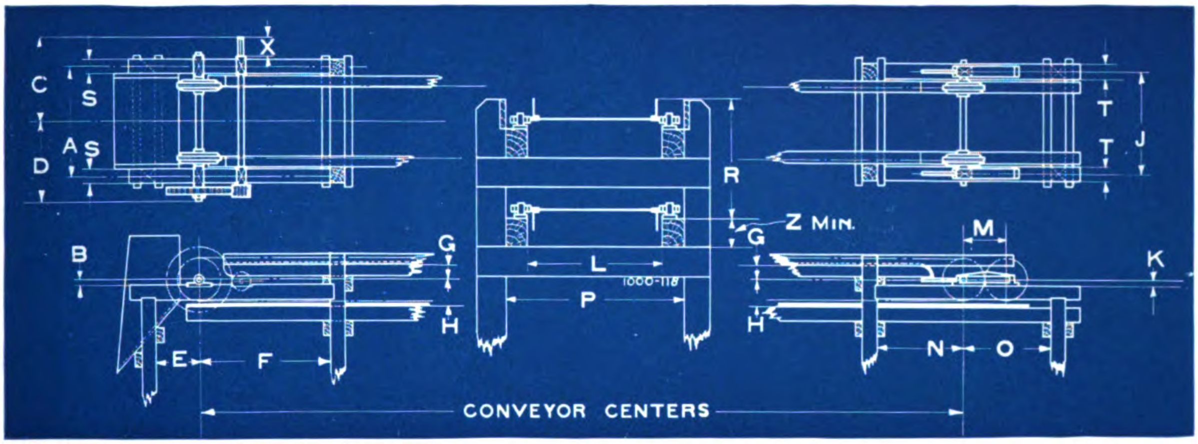


For Material Weighing 50 Pounds per Cubic Foot. Dimensions in Inches

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2189	2212	2235	2258	2281	2304	2327	2350	2373	2396	2419	2442	2465	2488	2511	2534
A	28½	34½	40½	46½	28½	36	42	48	30	36	42	48	30	36	44¼	50¼
B	15/16	15/16	15/16	15/16	15/16	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2⅝	2⅝
C	22⅛	25⅛	28⅛	31⅛	22⅛	26¼	29¼	32¼	23¼	26¼	29¼	32¼	23¼	26¼	31⅛	34⅛
D	19¾	22¾	25¾	28¾	19¾	25¼	28¼	31¼	22¼	25¼	28¼	31¼	22¼	25¼	30⅞	33⅞
E	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
F	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
G	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝
H	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞
J	28½	34½	40½	46½	28½	34	40	46	28	34	40	46	28	34	41½	47½
K	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 25/32	2 25/32
L	19	25	31	37	19	25	31	37	19	25	31	37	19	25	31	37
M	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	12	12
N	23	23	23	23	23	23	23	23	23	23	23	23	23	23	25	25
O	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
P	25	31	37	43	25	31	37	43	25	31	37	43	25	31	37	43
R	14½	14½	14½	14½	14½	14½	14½	14½	14½	14½	14½	14½	14½	14½	14½	14½
S	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6
T	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
X	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Z	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Steel Apron Conveyors

General Dimensions of Jeffrey Standard Steel Apron Conveyors Using No. 14½ Malleable Roller Chain



For Material Weighing 50 Pounds per Cubic Foot. Dimensions in Inches

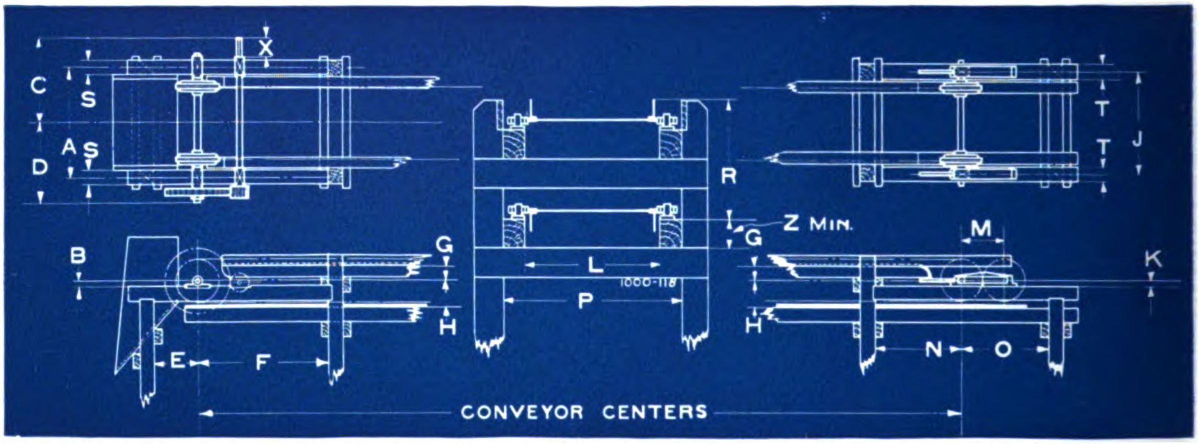
Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2192	2215	2238	2261	2284	2307	2330	2353	2376	2399	2422	2445	2468	2491	2514	2537
A	29½	35½	41½	48½	30½	36½	42½	48½	30½	36½	42½	48½	30½	36½	44¾	50¾
B	15/16	15/16	15/16	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2⅝	2⅝
C	22⅝	25⅝	28⅝	32½	23½	26½	29½	32½	23½	26½	29½	32½	23½	26½	31⅜	34⅜
D	20¼	23¼	26¼	31½	22½	25½	28½	31½	22½	25½	28½	31½	22½	25½	31⅛	34⅛
E	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
F	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
G	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝
H	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½
J	29½	35½	41½	47½	29½	35½	41½	47½	29½	35½	41½	47½	29½	35½	42	48
K	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 25/32	2 25/32
L	19¼	25¼	31¼	37¼	19¼	25¼	31¼	37¼	19¼	25¼	31¼	37¼	19¼	25¼	31¼	37¼
M	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	12	12
N	23	23	23	23	23	23	23	23	23	23	23	23	23	23	25	25
O	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
P	25¼	31¼	37¼	43¼	25¼	31¼	37¼	43¼	25¼	31¼	37¼	43¼	25¼	31¼	37¼	43¼
R	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜
S	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	6
T	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
X	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Z	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

For Material Weighing 100 Pounds per Cubic Foot. Dimensions in Inches

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2557	2577	2597	2617	2637	2657	2677	2697	2717	2737	2757	2777	2797	2817	2837	2857
A	29½	36½	42½	48½	30½	36½	42½	48½	30½	36½	42½	50¾	30½	36½	44¾	50¾
B	15/16	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2⅝	2¼	2¼	2⅝	2⅝
C	22⅝	26½	29½	32½	23½	26½	29½	32½	23½	26½	29½	34⅜	23½	26½	31⅜	34⅜
D	20¼	25½	28½	31½	22½	25½	28½	31½	22½	25½	28½	34⅛	22½	25½	31⅛	34⅛
E	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
F	25	25	25	25	25	25	25	25	25	25	25	30	25	25	25	30
G	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝
H	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½
J	29½	35½	41½	47½	29½	35½	41½	47½	29½	35½	41½	48	29½	35½	42	48
K	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 25/32	2 9/32	2 9/32	2 25/32	2 25/32
L	19¼	25¼	31¼	37¼	19¼	25¼	31¼	37¼	19¼	25¼	31¼	37¼	19¼	25¼	31¼	37¼
M	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	12	11¾	11¾	12	12
N	23	23	23	23	23	23	23	23	23	23	23	25	23	23	25	25
O	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
P	25¼	31¼	37¼	43¼	25¼	31¼	37¼	43¼	25¼	31¼	37¼	43¼	25¼	31¼	37¼	43¼
R	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜	16⅜
S	4	4	4	4	4	4	4	4	4	4	4	6	4	4	6	6
T	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
X	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Z	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Steel Apron Conveyors

General Dimensions of Jeffrey Standard Steel Apron Conveyors Using No. 2 Special Malleable Roller Chain



For Material Weighing 50 Pounds per Cubic Foot. Dimensions in Inches

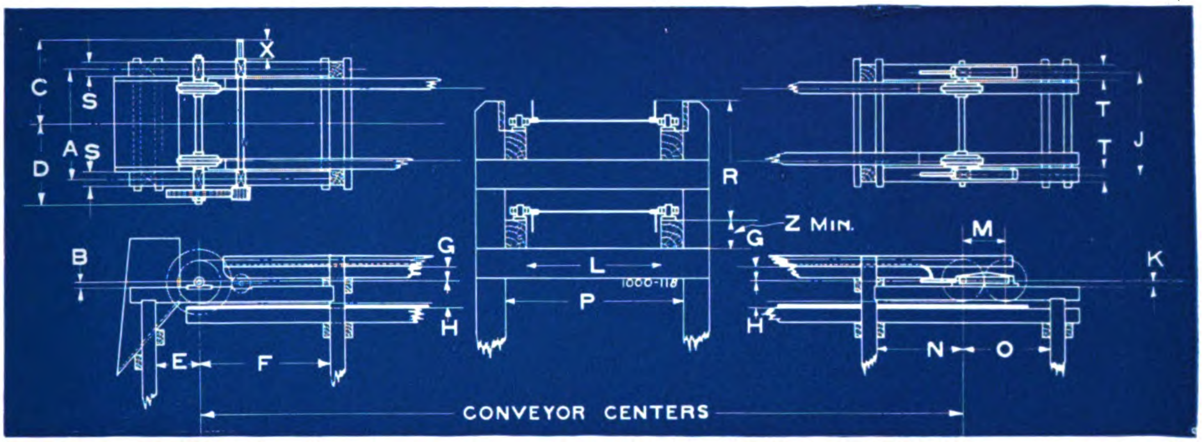
Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2195	2218	2241	2264	2287	2310	2333	2356	2379	2402	2425	2448	2471	2494	2517	2540
A	30 3/8	36 3/8	43 1/8	49 1/8	31 1/8	37 1/8	43 1/8	49 1/8	31 1/8	37 1/8	45 3/8	51 3/8	31 1/8	39 3/8	45 3/8	51 3/8
B	15/16	15/16	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 5/8	2 5/8	2 1/4	2 5/8	2 5/8	2 5/8
C	23 1/8	26 1/8	29 7/8	32 7/8	23 7/8	26 7/8	29 7/8	32 7/8	23 7/8	26 7/8	31 3/4	34 3/4	23 7/8	28 3/4	31 3/4	34 3/4
D	20 3/4	23 3/4	28 7/8	31 7/8	22 7/8	25 7/8	28 7/8	31 7/8	22 7/8	25 7/8	31 1/2	34 1/2	22 7/8	28 1/2	31 1/2	34 1/2
E	12	11	12	12	12	12	12	12	12	12	12	12	12	12	12	12
F	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
G	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8
H	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
J	30 3/8	36 3/8	42 3/8	48 3/8	30 3/8	36 3/8	42 3/8	48 3/8	30 3/8	36 3/8	42 5/8	48 5/8	30 3/8	36 5/8	42 5/8	48 5/8
K	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 25/32	2 25/32	2 9/32	2 25/32	2 25/32	2 25/32
L	19 5/8	25 5/8	31 5/8	37 5/8	19 5/8	25 5/8	31 5/8	37 5/8	19 5/8	25 5/8	31 5/8	37 5/8	19 5/8	25 5/8	31 5/8	37 5/8
M	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	12	12	11 3/4	12	12	12
N	23	23	23	23	23	23	23	23	23	23	25	25	23	25	25	25
O	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
P	27 5/8	33 5/8	39 5/8	45 5/8	27 5/8	33 5/8	39 5/8	45 5/8	27 5/8	33 5/8	39 5/8	45 5/8	27 5/8	33 5/8	39 5/8	45 5/8
R	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2
S	4	4	4	4	4	4	4	4	4	4	6	6	4	6	6	6
T	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
X	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Z	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

For Material Weighing 100 Pounds per Cubic Foot. Dimensions in Inches

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2560	2580	2600	2620	2640	2660	2680	2700	2720	2740	2760	2780	2800	2820	2840	2860
A	31 1/8	37 1/8	43 1/8	49 1/8	31 1/8	37 1/8	43 1/8	49 1/8	31 1/8	37 1/8	45 3/8	51 3/8	31 1/8	39 3/8	45 3/8	53 1/8
B	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 5/8	2 5/8	2 1/4	2 5/8	2 5/8	3 1/8
C	23 7/8	26 7/8	29 7/8	32 7/8	23 7/8	26 7/8	29 7/8	32 7/8	23 7/8	26 7/8	31 3/4	34 3/4	23 7/8	28 3/4	31 3/4	36 3/8
D	22 7/8	25 7/8	28 7/8	31 7/8	22 7/8	25 7/8	28 7/8	31 7/8	22 7/8	25 7/8	31 1/2	34 1/2	22 7/8	28 1/2	31 1/2	36 3/8
E	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
F	25	25	25	25	25	25	25	25	25	25	25	30	25	25	25	30
G	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8
H	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
J	30 3/8	36 3/8	42 3/8	48 3/8	30 3/8	36 3/8	42 3/8	48 3/8	30 3/8	36 3/8	42 5/8	48 5/8	30 3/8	36 5/8	42 5/8	50 3/8
K	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 25/32	2 25/32	2 9/32	2 25/32	2 25/32	3 1/8
L	19 5/8	25 5/8	31 5/8	37 5/8	19 5/8	25 5/8	31 5/8	37 5/8	19 5/8	25 5/8	31 5/8	37 5/8	19 5/8	25 5/8	31 5/8	37 5/8
M	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	12	12	11 3/4	12	12	15
N	23	23	23	23	23	23	23	23	23	23	25	25	23	25	25	27
O	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	27
P	27 5/8	33 5/8	39 5/8	45 5/8	27 5/8	33 5/8	39 5/8	45 5/8	27 5/8	33 5/8	39 5/8	45 5/8	27 5/8	33 5/8	39 5/8	45 5/8
R	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2
S	4	4	4	4	4	4	4	4	4	4	6	6	4	6	6	6
T	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6
X	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Z	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Steel Apron Conveyors

General Dimensions of Jeffrey Standard Steel Apron Conveyors Using No. 126-C Malleable Roller Chain



For Material Weighing 50 Pounds per Cubic Foot. Dimensions in Inches

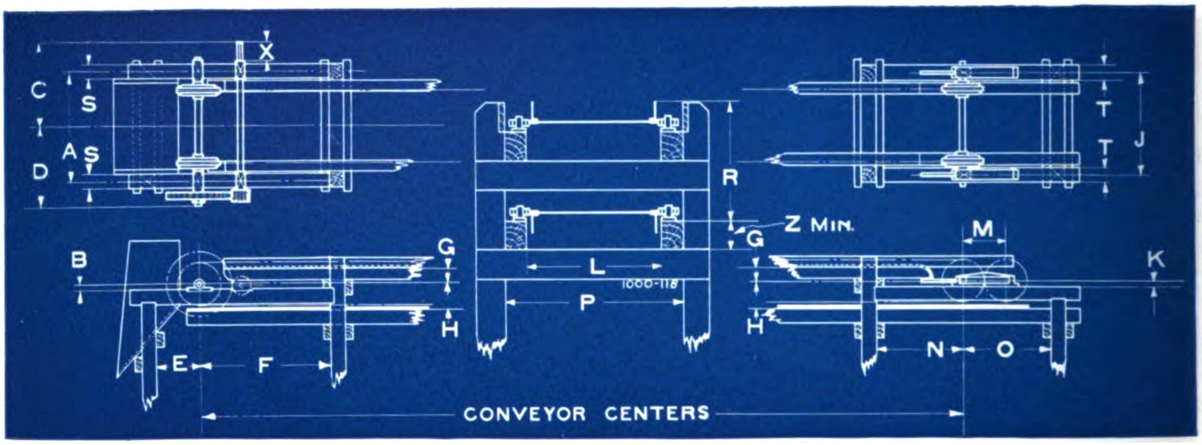
Length of Conveyor	0 to 25 ft. Centers					26 to 50 ft. Centers					51 to 75 ft. Centers					76 to 100 ft. Centers				
No. of Conveyor	2197	2198	2221	2244	2267	2289	2290	2313	2336	2359	2381	2382	2405	2428	2451	2473	2474	2497	2520	2543
A	31¼	37¼	43¼	49¼	61¼	31¼	37¼	45½	51½	63½	33½	39½	45½	53¼	65¼	35¼	41¼	47¼	53¼	65¼
B	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛
C	23⅞	26⅞	29⅞	32⅞	38⅞	23⅞	26⅞	31¾	34¾	40¾	25¾	28¾	31¾	36⅜	42⅜	27⅜	30⅜	33⅜	36⅜	42⅜
D	22⅞	25⅞	28⅞	31⅞	37⅞	22⅞	25⅞	31½	34½	40½	25½	28½	31½	36⅜	42⅜	27⅜	30⅜	33⅜	36⅜	42⅜
E	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
F	30	30	25	30	25	30	30	30	30	30	30	30	30	30	30	30	30	30	33	33
G	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝
H	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞
J	31¼	37¼	43¼	49¼	61¼	31¼	37¼	42¾	48¾	60¾	30¾	36¾	42¾	48½	60¾	30¾	36¾	42¾	48¾	62½
K	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	3⅛
L	19¾	25¾	31¾	37¾	49¾	19¾	25¾	31¾	37¾	49¾	19¾	25¾	31¾	37¾	49¾	19¾	25¾	31¾	37¾	49¾
M	11¾	11¾	11¾	11¾	11¾	11¾	11¾	12	12	12	12	12	12	12	12	12	12	12	12	15
N	23	23	23	23	23	23	23	25	25	25	25	25	25	25	25	25	25	25	25	27
O	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	30
P	27¾	33¾	39¾	45¾	57¾	27¾	33¾	39¾	45¾	57¾	27¾	33¾	39¾	45¾	57¾	27¾	33¾	39¾	45¾	57¾
R	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼
S	4	4	4	4	4	4	4	6	6	6	6	6	6	6	6	6	6	6	6	6
T	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6
X	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Z	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

For Material Weighing 100 Pounds per Cubic Foot. Dimensions in Inches

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2563	2583	2603	2623	2643	2663	2683	2703	2723	2743	2763	2783	2803	2823	2843	2863
A	37¼	43¼	49¼	63½	37¼	45½	51½	63½	39½	45½	53¼	65¼	41¼	47¼	53¼	67
B	2¼	2¼	2¼	2⅝	2¼	2⅝	2⅝	2⅝	2⅝	2⅝	3⅛	3⅛	3⅛	3⅛	3⅛	3½
C	26⅞	29⅞	32⅞	40¾	26⅞	31¾	34¾	40¾	28¾	31¾	36⅜	42⅜	30⅜	33⅜	36⅜	44⅝
D	25⅞	28⅞	31⅞	40½	25⅞	31½	34½	40½	28½	31½	36⅜	42⅜	30⅜	33⅜	36⅜	44¼
E	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
F	30	25	30	30	30	30	30	33	30	33	33	36	33	33	33	36
G	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝
H	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞
J	37¼	43¼	49¼	60¾	37¼	42¾	48¾	60¾	36¾	43¾	50½	62½	38½	44½	50½	62½
K	2 9/32	2 9/32	2 9/32	2 25/32	2 9/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛
L	25¾	31¾	37¾	49¾	25¾	31¾	37¾	49¾	25¾	31¾	37¾	49¾	25¾	31¾	37¾	49¾
M	11¾	11¾	11¾	12	11¾	12	12	12	12	12	15	15	15	15	15	15
N	23	23	23	25	23	25	25	25	25	25	27	27	27	27	27	27
O	27	27	27	27	27	27	27	27	27	27	30	30	30	30	30	30
P	33¾	39¾	45¾	57¾	33¾	39¾	45¾	57¾	33¾	39¾	45¾	57¾	33¾	39¾	45¾	57¾
R	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼
S	4	4	4	6	4	6	6	6	6	6	6	6	6	6	6	8
T	4	4	4	4	4	4	4	4	4	4	6	6	6	6	6	6
X	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	7
Z	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Steel Apron Conveyors

General Dimensions of Jeffrey Standard Steel Apron Conveyors Using No. 951 Steel Thimble Roller Chain



For Material Weighing 50 Pounds per Cubic Foot. Dimensions in Inches

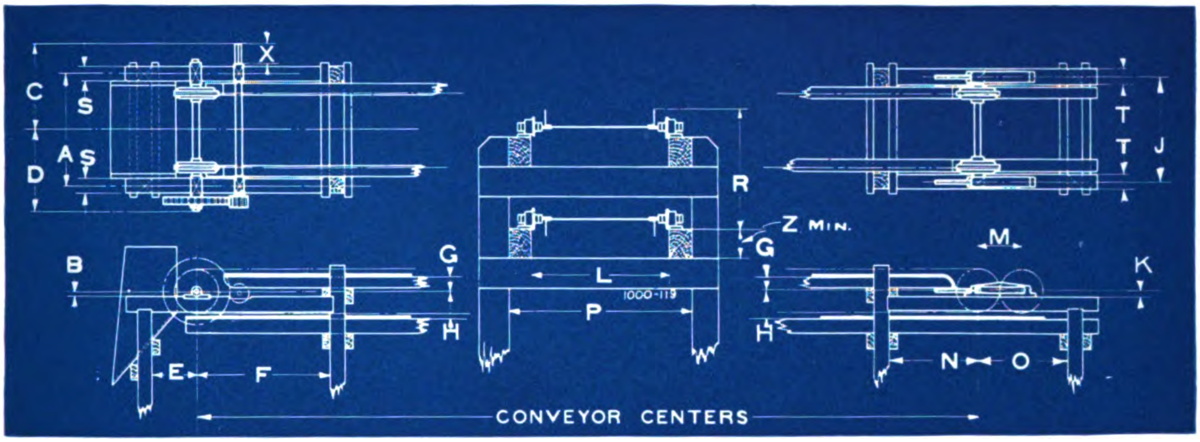
Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2201	2224	2247	2270	2293	2316	2339	2362	2385	2408	2431	2454	2477	2500	2523	2546
A	37¼	43¼	49¼	61¼	37¼	45½	51½	63½	39½	45½	53¼	65¼	41¼	47¼	53¼	65¼
B	2¼	2¼	2¼	2¼	2¼	2⅝	2⅝	2⅝	2⅝	2⅝	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛
C	26⅞	29⅞	32⅞	38⅞	26⅞	31¾	34¾	40¾	28¾	31¾	36⅜	42⅜	30⅜	33⅜	36⅜	42⅜
D	25⅞	28⅞	31⅞	37⅞	25⅞	31½	34½	40½	28½	31½	36⅜	42⅜	30⅜	33⅜	36⅜	42⅜
E	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
F	30	25	30	25	30	30	30	30	30	30	30	30	30	30	33	33
G	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝
H	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞
J	37¼	43¼	49¼	61¼	37¼	42¾	48¾	60¾	36¾	42¾	48¾	60¾	36¾	42¾	48¾	62½
K	2 9/32	2 9/32	2 9/32	2 9/32	2 9/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	3⅛
L	25¾	31¾	37¾	49¾	25¾	31¾	37¾	49¾	25¾	31¾	37¾	49¾	25¾	31¾	37¾	49¾
M	11¾	11¾	11¾	11¾	11¾	12	12	12	12	12	12	12	12	12	12	15
N	23	23	23	23	23	25	25	25	25	25	25	25	25	25	25	27
O	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	30
P	33¾	39¾	45¾	57¾	33¾	39¾	45¾	57¾	33¾	39¾	45¾	57¾	33¾	39¾	45¾	57¾
R	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼
S	4	4	4	4	4	6	6	6	6	6	6	6	6	6	6	6
T	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6
X	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Z	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

For Material Weighing 100 Pounds per Cubic Foot. Dimensions in Inches

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2566	2586	2606	2626	2646	2666	2686	2706	2726	2746	2766	2786	2806	2826	2846	2866
A	37¼	43¼	49¼	63½	37¼	45½	51½	63½	39½	45½	53¼	65¼	41¼	47¼	53¼	67
B	2¼	2¼	2¼	2⅝	2¼	2⅝	2⅝	2⅝	2⅝	2⅝	3⅛	3⅛	3⅛	3⅛	3⅛	3½
C	26⅞	29⅞	32⅞	40¾	26⅞	31¾	34¾	40¾	28¾	31¾	36⅜	42⅜	30⅜	33⅜	36⅜	44⅝
D	25⅞	28⅞	31⅞	40½	25⅞	31½	34½	40½	28½	31½	36⅜	42⅜	30⅜	33⅜	36⅜	44¼
E	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
F	30	25	30	30	30	30	30	33	30	33	33	36	33	33	33	36
G	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝
H	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞	8⅞
J	37¼	43¼	49¼	60¾	37¼	42¾	48¾	60¾	36¾	42¾	50½	62½	38½	44½	50½	62½
K	2 9/32	2 9/32	2 9/32	2 25/32	2 9/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛
L	25¾	31¾	37¾	49¾	25¾	31¾	37¾	49¾	25¾	31¾	37¾	49¾	25¾	31¾	37¾	49¾
M	11¾	11¾	11¾	12	11¾	12	12	12	12	12	15	15	15	15	15	15
N	23	23	23	25	23	25	25	25	25	25	27	27	27	27	27	27
O	27	27	27	27	27	27	27	27	27	27	30	30	30	30	30	30
P	33¾	39¾	45¾	57¾	33¾	39¾	45¾	57¾	33¾	39¾	45¾	57¾	33¾	39¾	45¾	57¾
R	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼
S	4	4	4	6	4	6	6	6	6	6	6	6	6	6	6	8
T	4	4	4	4	4	4	4	4	4	4	6	6	6	6	6	6
X	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	7
Z	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Steel Apron Conveyors

General Dimensions of Jeffrey Standard Steel Apron Conveyors Using No. 809 Steel Thimble Roller Chain



For Material Weighing 50 Pounds per Cubic Foot. Dimensions in Inches

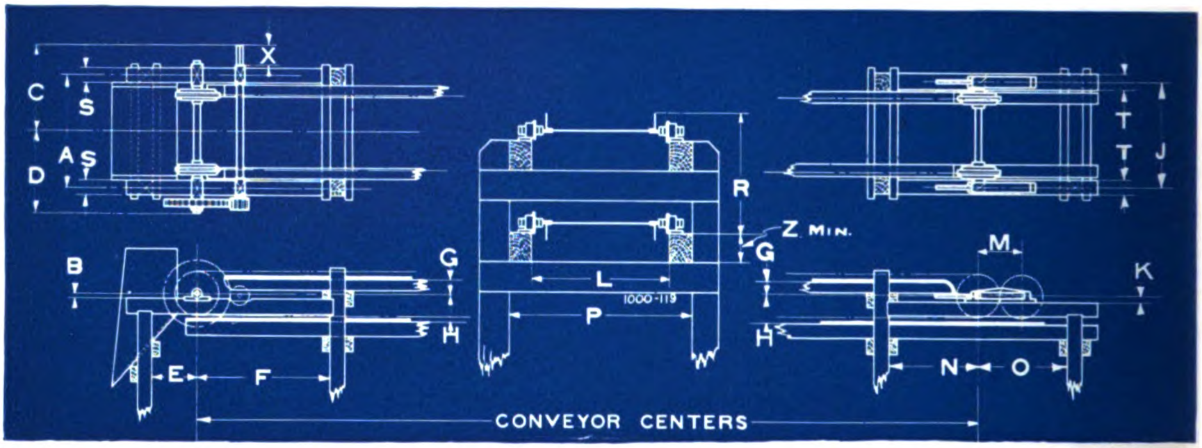
Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2204	2227	2250	2273	2296	2319	2342	2365	2388	2411	2434	2457	2480	2503	2526	2549
A	43¾	49¾	64	76	46	52	65¾	77¾	47¾	53¾	65¾	77¾	47¾	55½	67½	79½
B	2¼	2¼	2⅝	2⅝	2⅝	2⅝	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	3½	3½	3½
C	30⅛	33⅛	41	47	32	35	42⅝	48⅝	33⅝	36⅝	42⅝	48⅝	33⅝	38⅞	44⅞	50⅞
D	29⅛	32⅛	40¾	46¾	31¾	34¾	42⅝	48⅝	33⅝	36⅝	42⅝	48⅝	33⅝	38½	44½	50½
E	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
F	30	30	30	30	30	30	30	30	30	33	33	33	33	33	35	35
G	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾
H	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
J	43¾	49¾	61¼	73¼	43¼	49¼	61¼	73¼	43¼	49¼	63	75	45	51	63	75
K	2 9/32	2 9/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛
L	32⅝	38⅝	50⅝	62⅝	32⅝	38⅝	50⅝	62⅝	32⅝	38⅝	50⅝	62⅝	32⅝	38⅝	50⅝	62⅝
M	11¾	11¾	12	12	12	12	12	12	12	12	15	15	15	15	15	15
N	23	23	25	25	25	25	25	25	25	25	27	27	27	27	27	27
O	30	30	30	30	30	30	30	30	30	30	33	33	33	33	33	33
P	40⅝	46⅝	58⅝	70⅝	40⅝	46⅝	58⅝	70⅝	40⅝	46⅝	58⅝	70⅝	40⅝	46⅝	58⅝	70⅝
R	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾
S	4	4	6	6	6	6	6	6	6	6	6	6	6	8	8	8
T	4	4	4	4	4	4	4	4	4	4	6	6	6	6	6	6
X	6	6	6	6	6	6	6	6	6	6	6	6	6	7	7	7
Z	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

For Material Weighing 100 Pounds per Cubic Foot. Dimensions in Inches

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2569	2589	2609	2629	2649	2669	2689	2709	2729	2749	2769	2789	2809	2829	2849	2869
A	46	52	64	77¾	46	53¾	65¾	77¾	47¾	53¾	67½	79½	49½	55½	67½	81¾
B	2⅝	2⅝	2⅝	3⅛	2⅝	3⅛	3⅛	3⅛	3⅛	3⅛	3½	3½	3½	3½	3½	4⅛
C	32	35	41	48⅝	32	36⅝	42⅝	48⅝	33⅝	36⅝	44⅞	50⅞	35⅞	38⅞	44⅞	53⅜
D	31¾	34¾	40¾	48⅝	31¾	36⅝	42⅝	48⅝	33⅝	36⅝	44½	50½	35½	38½	44½	53⅛
E	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
F	30	30	30	30	30	36	30	36	33	33	33	35	33	33	35	35
G	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾
H	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
J	43¼	49¼	61¼	75	43¼	51	63	75	45	51	63	75	45	51¼	63	76¾
K	2 25/32	2 25/32	2 25/32	3⅛	2 25/32	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	4
L	32⅝	38⅝	50⅝	62⅝	32⅝	38⅝	50⅝	62⅝	32⅝	38⅝	50⅝	62⅝	32⅝	38⅝	50⅝	62⅝
M	12	12	12	15	12	15	15	15	15	15	15	15	15	15	15	10½
N	25	25	25	27	25	27	27	27	27	27	27	27	27	27	27	25
O	30	30	30	33	30	33	33	33	33	33	33	33	33	33	33	29
P	40⅝	46⅝	58⅝	70⅝	40⅝	46⅝	58⅝	70⅝	40⅝	46⅝	58⅝	70⅝	40⅝	46⅝	58⅝	70⅝
R	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾	25¾
S	6	6	6	6	6	6	6	6	6	6	8	8	8	6	8	8
T	4	4	4	6	4	6	6	6	6	6	6	6	6	6	6	6
X	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	8
Z	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Steel Apron Conveyors

General Dimensions of Jeffrey Standard Steel Apron Conveyors Using No. 276 Steel Thimble Roller Chain



For Material Weighing 50 Pounds per Cubic Foot. Dimensions in Inches

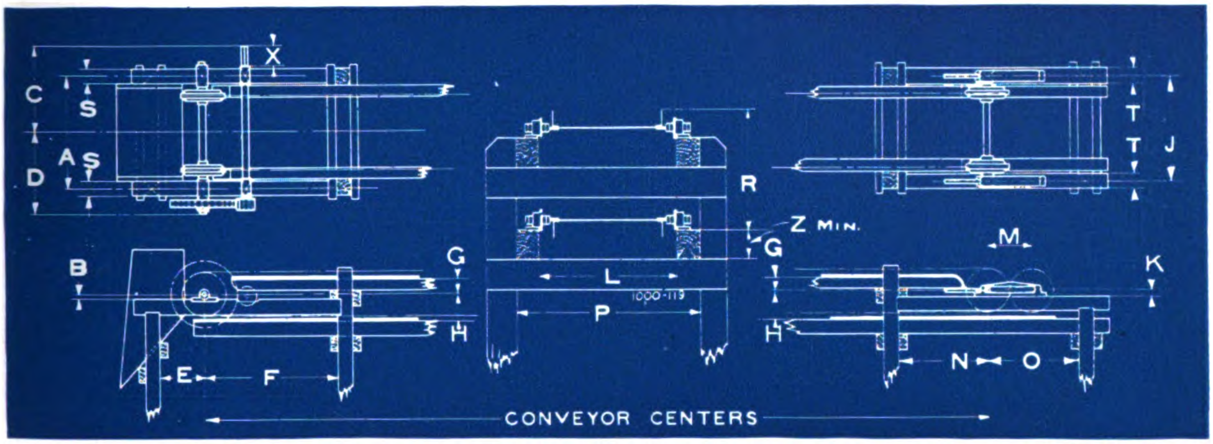
Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2206	2229	2252	2275	2298	2321	2344	2367	2390	2413	2436	2459	2482	2505	2528	2551
A	44 1/8	50 1/8	64 3/8	76 3/8	46 3/8	52 3/8	66 1/8	78 1/8	48 1/8	54 1/8	66 1/8	78 1/8	48 1/8	55 7/8	67 7/8	79 7/8
B	2 1/4	2 1/4	2 5/8	2 5/8	2 5/8	2 5/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/2	3 1/2	3 1/2
C	30 3/8	33 3/8	41 1/4	47 1/4	32 1/4	35 1/4	42 7/8	48 7/8	33 7/8	36 7/8	42 7/8	48 7/8	33 7/8	39 1/8	45 1/8	51 1/8
D	29 3/8	32 3/8	41	47	32	35	42 7/8	48 7/8	33 7/8	36 7/8	42 7/8	48 7/8	33 7/8	38 3/4	44 3/4	50 3/4
E	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
F	30	30	30	30	30	30	30	30	30	33	33	33	33	33	35	35
G	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8
H	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4
J	44 1/8	50 1/8	62 5/8	74 5/8	44 5/8	50 5/8	62 5/8	74 5/8	44 5/8	50 5/8	64 5/8	76 5/8	46 5/8	52 5/8	64 5/8	76 5/8
K	2 9/32	2 9/16	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8
L	33 1/8	39 1/8	51 1/8	63 1/8	33 1/8	39 1/8	51 1/8	63 1/8	33 1/8	39 1/8	51 1/8	63 1/8	33 1/8	39 1/8	51 1/8	63 1/8
M	11 3/4	11 3/4	12	12	12	12	12	12	12	12	15	15	15	15	15	15
N	23	23	25	25	25	25	25	25	25	25	27	27	27	27	27	27
O	33	33	33	33	33	33	33	33	33	33	36	36	36	36	36	36
P	41 1/8	47 1/8	59 1/8	71 1/8	41 1/8	47 1/8	59 1/8	71 1/8	41 1/8	47 1/8	59 1/8	71 1/8	41 1/8	47 1/8	59 1/8	71 1/8
R	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8
S	4	4	6	6	6	6	6	6	6	6	6	6	6	8	8	8
T	4	4	4	4	4	4	4	4	4	4	6	6	6	6	6	6
X	6	6	6	6	6	6	6	6	6	6	6	6	6	7	7	7
Z	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

For Material Weighing 100 Pounds per Cubic Foot. Dimensions in Inches

Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2571	2591	2611	2631	2651	2671	2691	2711	2731	2751	2771	2791	2811	2831	2851	2871
A	46 3/8	52 3/8	64 3/8	78 1/8	46 3/8	54 1/8	66 1/8	78 1/8	48 1/8	54 1/8	67 7/8	79 7/8	49 7/8	55 7/8	67 7/8	82 1/8
B	2 5/8	2 5/8	2 5/8	3 1/8	2 5/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	4 1/8
C	32 1/4	35 1/4	41 1/4	48 7/8	32 1/4	36 7/8	42 7/8	48 7/8	33 7/8	36 7/8	45 1/8	51 1/8	36 1/8	39 1/8	45 1/8	53 5/8
D	32	35	41	48 7/8	32	36 7/8	42 7/8	48 7/8	33 7/8	36 7/8	44 3/4	50 3/4	35 3/4	38 3/4	44 3/4	53 3/8
E	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
F	30	30	30	30	30	36	30	36	33	33	33	35	33	33	35	35
G	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8	8 1/8
H	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4	15 1/4
J	44 5/8	50 5/8	62 5/8	76 5/8	44 5/8	52 5/8	64 5/8	76 5/8	46 5/8	52 5/8	64 5/8	76 5/8	46 5/8	52 5/8	64 5/8	77 1/8
K	2 25/32	2 25/32	2 25/32	3 1/8	2 25/32	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	4
L	33 1/8	39 1/8	51 1/8	63 1/8	33 1/8	39 1/8	51 1/8	63 1/8	33 1/8	39 1/8	51 1/8	63 1/8	33 1/8	39 1/8	51 1/8	63 1/8
M	12	12	12	15	12	15	15	15	15	15	15	15	15	15	15	22 1/4
N	25	25	25	27	25	27	27	27	27	27	27	27	27	27	27	39
O	33	33	33	36	33	36	36	36	36	36	36	36	36	36	36	43
P	41 1/8	47 1/8	59 1/8	71 1/8	41 1/8	47 1/8	59 1/8	71 1/8	41 1/8	47 1/8	59 1/8	71 1/8	41 1/8	47 1/8	59 1/8	71 1/8
R	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8	31 5/8
S	6	6	6	6	6	6	6	6	6	6	8	8	8	8	8	8
T	4	4	4	6	4	6	6	6	6	6	6	6	6	6	6	6
X	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	8
Z	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Steel Apron Conveyors

General Dimensions of Jeffrey Standard Steel Apron Conveyors Using No. 180 Steel Thimble Roller Chain



For Material Weighing 50 Pounds per Cubic Foot. Dimensions in Inches

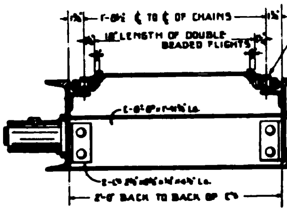
Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2208	2231	2254	2277	2300	2323	2346	2369	2392	2415	2438	2461	2484	2507	2530	2553
A	50¾	59	65	77	53	60¾	66¾	78¾	54¾	60¾	66¾	80½	56½	62½	68½	82¾
B	2¼	2⅝	2⅝	2⅝	2⅝	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	3½	3½	3½	3½	4⅛
C	33⅝	38½	41½	47½	35½	40⅛	43⅛	49⅛	37⅛	40⅛	43⅛	51⅜	39⅜	42⅜	45⅜	53⅞
D	32⅝	38¼	41¼	47¼	35¼	40⅛	43⅛	49⅛	37⅛	40⅛	43⅛	51	39	42	45	53⅝
E	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
F	30	30	30	30	30	30	30	36	36	33	33	33	35	35	35	35
G	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛
H	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼
J	50¾	57¼	63¼	75¼	51¼	57¼	63¼	77¼	53¼	59¼	65¼	77¼	53¼	59¼	65¼	77¾
K	2 9/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	2 25/32	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	4
L	39⅜	45⅜	51⅜	63⅜	39⅜	45⅜	51⅜	63⅜	39⅜	45⅜	51⅜	63⅜	39⅜	45⅜	51⅜	63⅜
M	11¾	12	12	12	12	12	12	15	15	15	15	15	15	15	15	22¼
N	23	25	25	25	25	25	25	27	27	27	27	27	27	27	27	39
O	35	35	35	35	35	35	35	38	38	38	38	38	38	38	38	45
P	47⅜	53⅜	59⅜	71⅜	47⅜	53⅜	59⅜	71⅜	47⅜	53⅜	59⅜	71⅜	47⅜	53⅜	59⅜	71⅜
R	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝
S	4	6	6	6	6	6	6	6	6	6	6	8	8	8	8	8
T	4	4	4	4	4	4	4	6	6	6	6	6	6	6	6	6
X	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7	8
Z	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8

For Material Weighing 100 Pounds per Cubic Foot. Dimensions in Inches

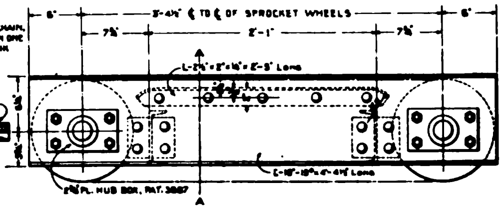
Length of Conveyor	0 to 25 ft. Centers				26 to 50 ft. Centers				51 to 75 ft. Centers				76 to 100 ft. Centers			
No. of Conveyor	2573	2593	2613	2633	2653	2673	2693	2713	2733	2753	2773	2793	2813	2833	2853	2873
A	53	59	65	78¾	54¾	60¾	66¾	80½	56½	62½	68½	80½	56½	62½	70¾	82¾
B	2⅝	2⅝	2⅝	3⅛	3⅛	3⅛	3⅛	3½	3½	3½	3½	3½	3½	3½	4⅛	4⅛
C	35½	38½	41½	49⅛	37⅛	40⅛	43⅛	51⅜	39⅜	42⅜	45⅜	51⅜	39⅜	42⅜	47⅞	53⅞
D	35¼	38¼	41¼	49⅛	37⅛	40⅛	43⅛	51	39	42	45	51	39	42	47⅝	53⅝
E	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
F	30	30	30	30	30	36	30	36	35	35	35	35	35	35	35	35
G	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛
H	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼
J	51¼	57¼	63¼	77¼	53¼	59¼	65¼	77¼	53¼	59¼	65¼	77¼	53¼	59¼	65¾	77¾
K	2 25/32	2 25/32	2 25/32	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	4	4
L	39⅜	45⅜	51⅜	63⅜	39⅜	45⅜	51⅜	63⅜	39⅜	45⅜	51⅜	63⅜	39⅜	45⅜	51⅜	63⅜
M	12	12	12	15	15	15	15	15	15	15	15	15	15	15	22¼	22¼
N	25	25	25	27	27	27	27	27	27	27	27	27	27	27	39	39
O	35	35	35	38	38	38	38	38	38	38	38	38	38	38	45	45
P	47⅜	53⅜	59⅜	71⅜	47⅜	53⅜	59⅜	71⅜	47⅜	53⅜	59⅜	71⅜	47⅜	53⅜	59⅜	71⅜
R	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝	33⅝
S	6	6	6	6	6	6	6	8	8	8	8	8	8	8	8	8
T	4	4	4	6	6	6	6	6	6	6	6	6	6	6	6	6
X	6	6	6	6	6	6	6	7	7	7	7	7	7	7	8	8
Z	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8

Steel Apron Conveyors

STEEL Apron Conveyors are used extensively as feeders for coal, ore and similar materials. For moderate capacities and duty, feeders of the design shown below equipped with $\frac{3}{16}''$ flights on No. 2 Special Malleable Roller Chain has proven very satisfactory. One of similar design using No. 149 S. T. R. chain can be furnished.



CROSS SECTION AT A–A OF FRAME

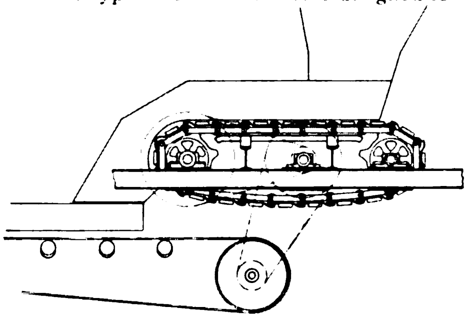


SIDE ELEVATION OF FEEDER FRAME

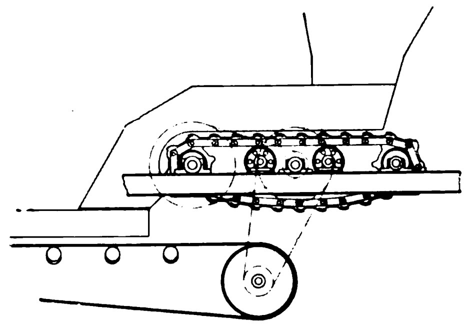
A compact and durable power driven outfit for maintaining a steady flow of material. Made in widths and lengths to suit requirements.

Can be bolted under Bin Gate opening.

The types shown below were designed for the more rugged duty requiring heavier parts throughout.



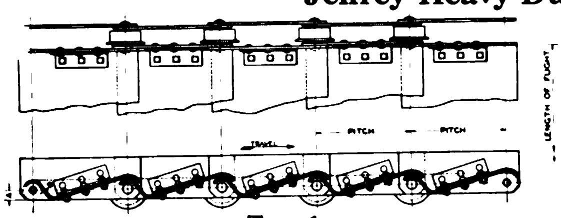
These Feeders can be furnished in various widths and lengths to suit requirements.



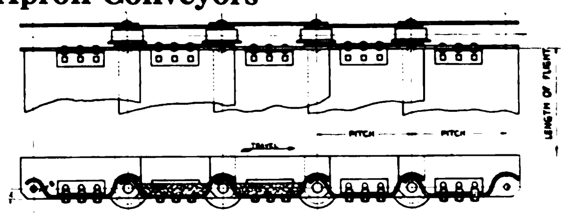
The above feeder consisting of ½″ flights mounted upon No. 1071 S. T. R. chain is adapted to heavy duty service such as handling ore and other abrasive materials.

This type of feeder consists of ½″ flights mounted upon a Steel Thimble Roller or Hercules type of chain. Chain side bars operate over supporting idlers spaced every 15″ or 20″ thereby relieving the pins of the impact load.

Jeffrey Heavy Duty Apron Conveyors



Type 1



Type 2

The heavy steel flights shown above were designed for Jeffrey Heavy Duty Apron Conveyors, particularly adapted to the handling of ores, rock, cement clinker and other similar materials. The shape and design of these special flights add much to the rigidity and life of the Conveyor.

The prominent feature of the Type 1 flight is its perfect discharge, made possible by eliminating the front bead. The depressed feature permits of a larger capacity up steep inclines.

Type 2 flights can be filled with renewable timbers as shown by illustration. The timber fillers serve to eliminate a large amount of breakage and protect the flights from wear.

Flights of the types above are ordinarily mounted on Jeffrey Steel Thimble Roller Chain and with the inside links extended form a continuous moving trough.

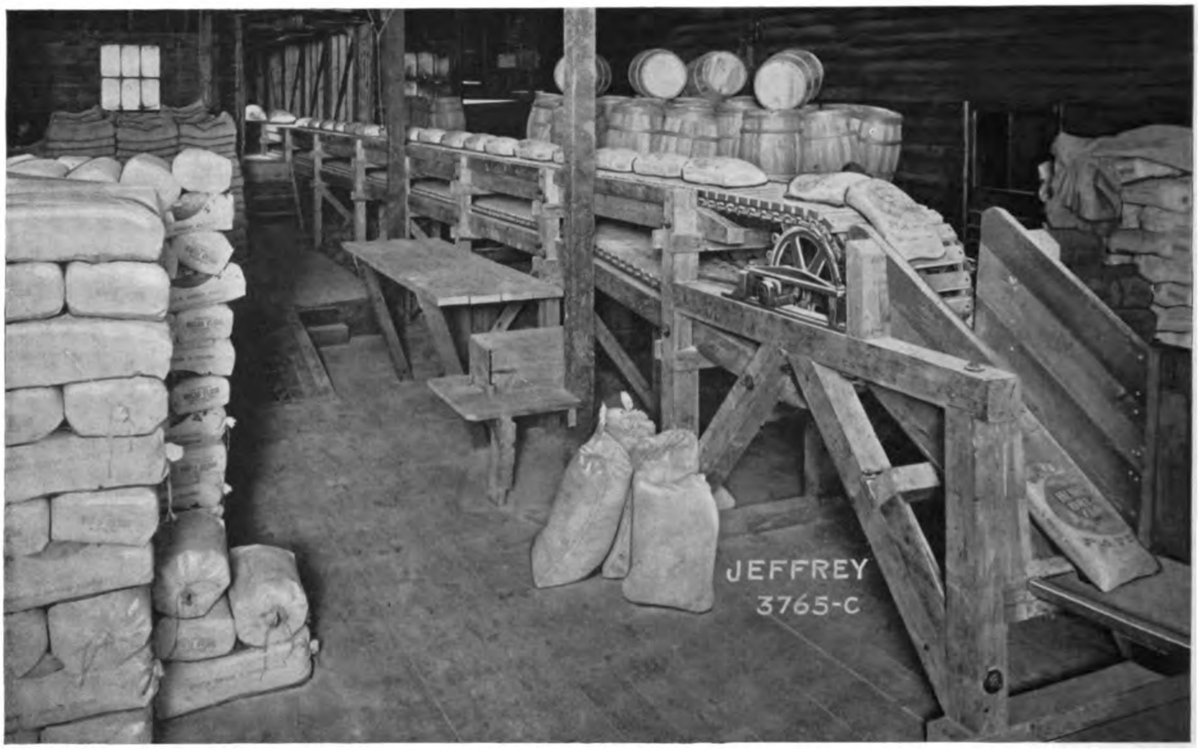
Type	Chain			A	B	Max. Width of Apron
	No.	Pitch	Working Strength			
1	809	9	4500	1¼	⅜, ⅝ or ½	8′-0″
1	276	12	5200	1¼	⅜, ½ or ⅝	8′-0″
1	180	12	6500	1¼	⅜, ½ or ⅝	8′-0″
1	1106	12	15600	1¼	⅜, ½ or ⅝	8′-0″
2	809	9	4500	1¼	⅜, ½ or ⅝	8′-0″
2	276	12	5200	1¼	⅜, ½ or ⅝	8′-0″
2	180	12	6500	1¼	⅜, ½ or ⅝	8′-0″
2	1106	12	15600	1¼	⅜, ½ or ⅝	8′-0″

Conveyors of this type make ideal feeders for Ores, Rock, etc. Built to suit capacity requirements.

Standard Wood Apron Conveyors

Section 8

Wood Apron Conveyors

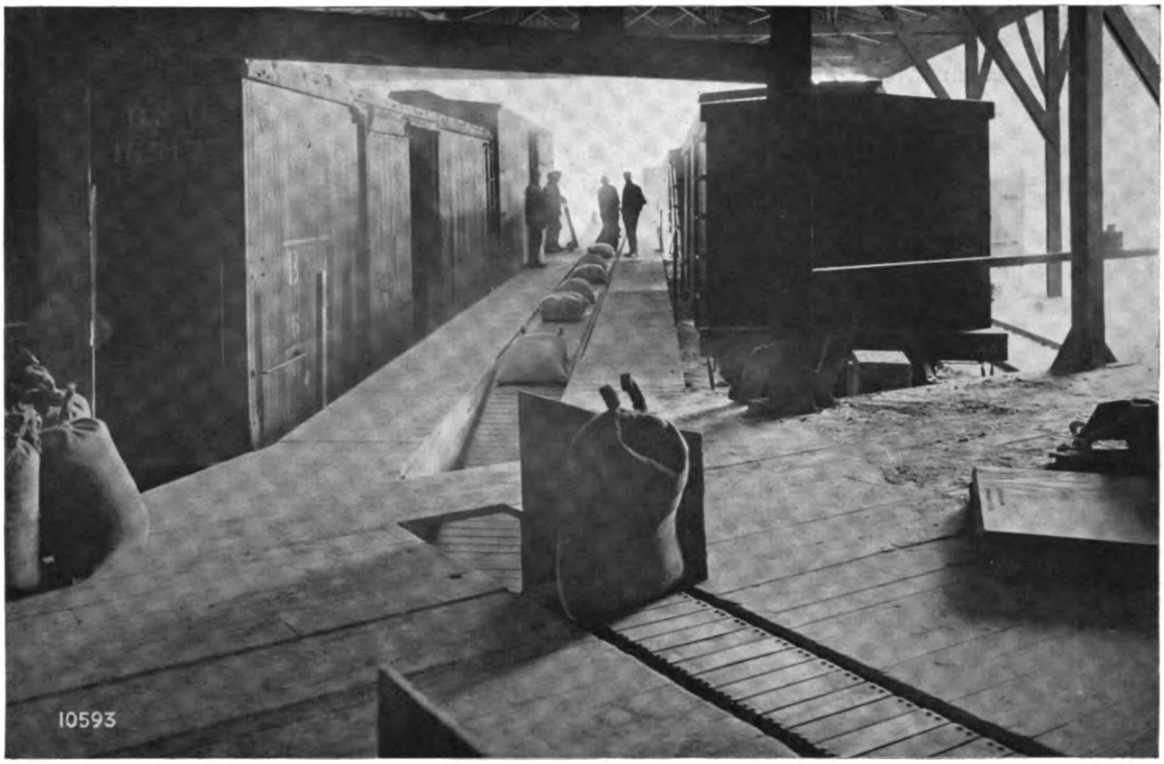


Jeffrey Wood Apron Conveyor handling sacks of flour in a Flour Mill. Large quantities of sacks are quickly and economically transferred from mill to storage or storage to shipping platform with this Conveyor.

The Wood Apron Conveyor is ideally suited to the transferring of freight in warehouse and shipping terminals by reason of the small floor space required for its operation.

Another Wood Apron Conveyor with slats placed at intervals handling sacks in a Grain Mill.

Wood Apron Conveyors



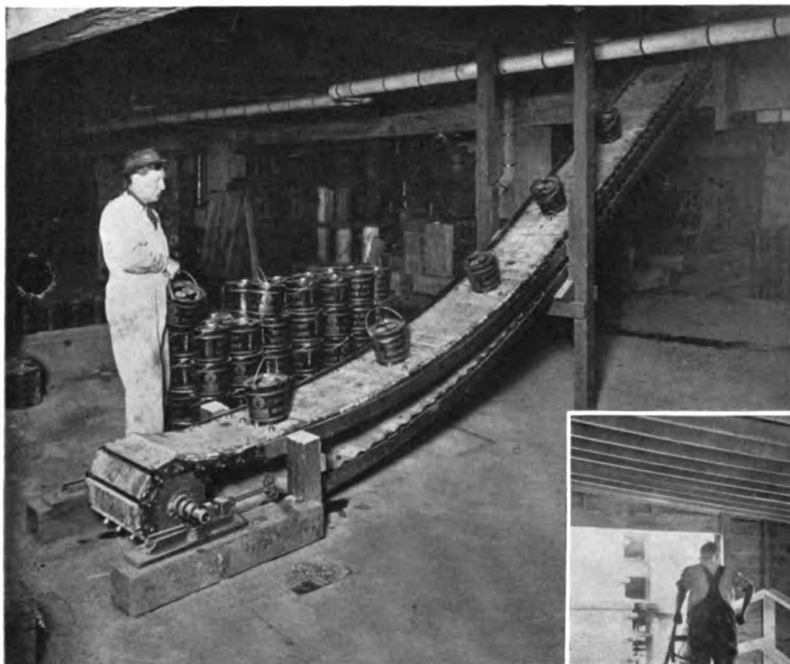
Jeffrey Wood Apron Conveyors save many hand-truckers in this Fertilizer Plant in carrying sacks from sacking machines to cars.

Another Wood Apron Conveyor installed in a Flour Mill for the handling of sacks to and from storage.

Being installed level with the floor, the Wood Apron Conveyor makes it possible to handle heavy packages without lifting.

Wood Apron Conveyors

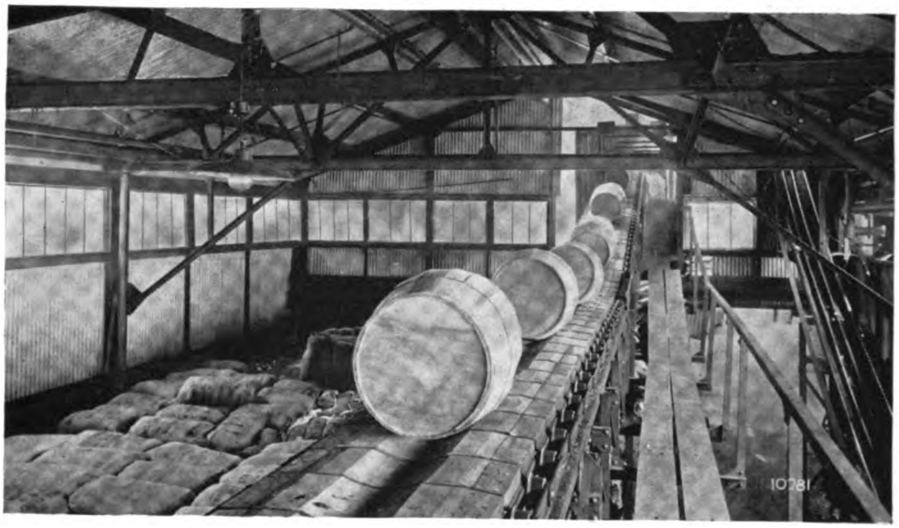
A Jeffrey Standard Wood Apron Conveyor made in portable sections is a valuable asset to a shipping room. One conveyor mounted on casters can be moved about so as to serve several stationary conveyors.



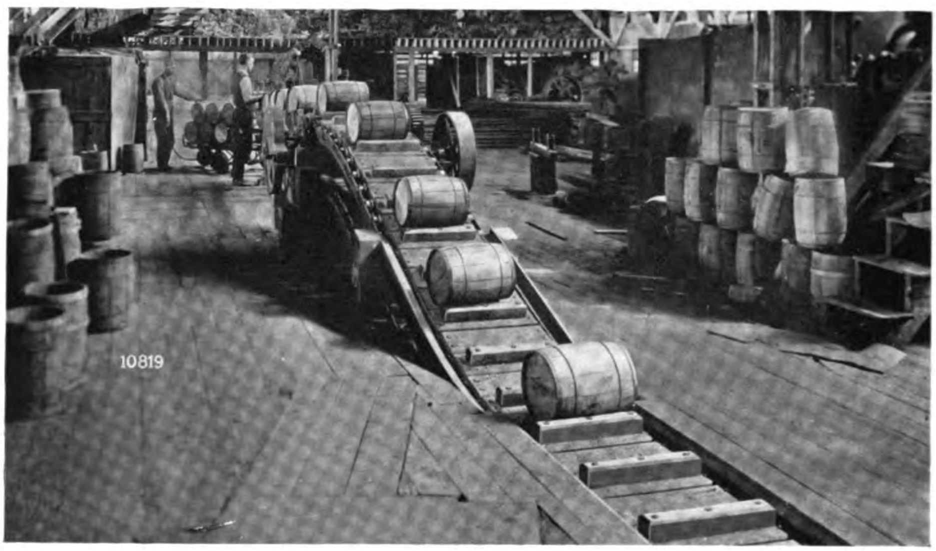
The Wood Apron Conveyor shown in opposite illustration carries heavy buckets of lead paint from basement storage to ground floor where they are transferred to the Portable Wood Apron Conveyor as shown in illustration above.

When trucking from one level to another is necessary, a Wood Apron Conveyor used as a ramp, such as shown in right hand illustration, is convincing evidence of plant efficiency.

Wood Apron Conveyors



Jeffrey Wood Apron Conveyors are practically indispensible in the Sugar Industry in the handling of finished products from Mill to Warehouse.



Wood Apron Conveyors fitted with various cleats as shown in this and the lower illustration make it possible to carry barrels, kegs, etc., up quite steep inclines.

The view above shows the Wood Apron Conveyor handling kegs of nails in a large Wire and Nail Works, while the opposite view shows barrels being conveyed from wagon platform to washery in a distillery works.

Wood Apron Conveyors

The upper view shows an inclined Jeffrey Apron Conveyor handling heavy bales of cotton from steamboat or railroad cars to storage.

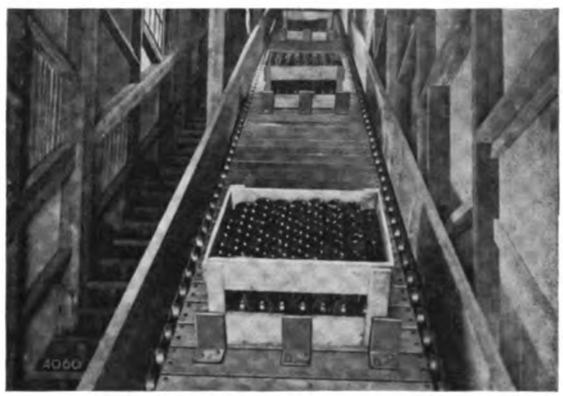
The left hand view shows an inclined Apron Conveyor with high, protecting sides, handling light and heavy miscellaneous freight from the basement of a Chicago department store.

Jeffrey Wood Apron Conveyors fitted with roller chains are used in almost every industry for the transfer of merchandise from manufacturing building to storage room.

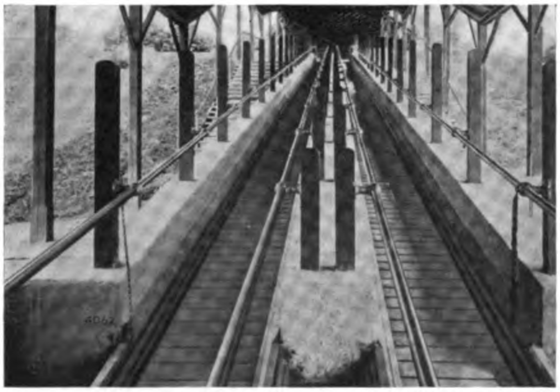
Wood Apron Conveyors

Jeffrey Standard Wood Apron Conveyor transferring material from the second floor of one building to the ground floor storage of another in a large manufacturing plant. This conveyor is reversible, carrying material from shop to storage or vice versa.

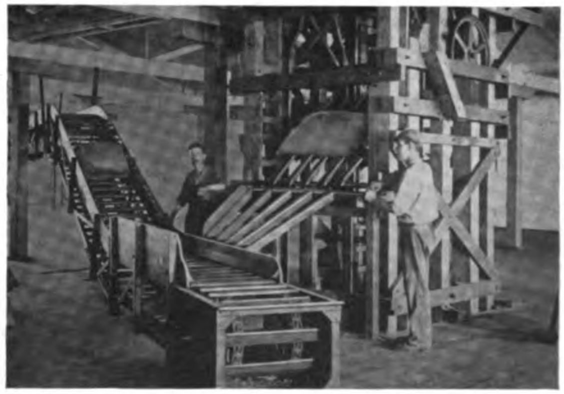
Handling refuse with a Wood Apron Conveyor in the Street Cleaning Department of a large City.



The smooth running of the Jeffrey Apron Conveyor is insurance against breakage in handling bottles and other fragile material.



Jeffrey inclined Wood Apron Conveyors serving as a walkway at a modern Amusement Park.



A Jeffrey Wood Apron Conveyor and Tray Elevator handling sacks in a warehouse in Australia.

Wood Apron Conveyors

A Jeffrey Wood Apron Conveyor installed in the Assembly department of an Automobile Plant.

Wood Apron Conveyors effect a great saving in the transfer of bulk material

WOOD Apron Conveyors are used for handling large bulk materials such as packages, boxes, bales and bags. The maximum angle of inclination for standard wood apron conveyors is 20 degrees. This angle may be increased to 35 degrees by the use of proper cleats depending on the nature of the package. With the addition of wooden blocks or cleats bolted to the flights at intervals, cylindrical objects such as barrels, kegs and rolls may be conveyed up steep inclines as illustrated on pages 199 to 201.

Apron Conveyors, both with wood and steel flights are ideally suited to the progressive method of assembly which has met with such marked success in the larger automobile factories.

Two Types of Chain used on Wood Aprons

The Standard Wood Apron Conveyors are also made up of two strands of chain between which are bolted wood flights. The flights are made of well seasoned hard wood slightly narrower than the pitch of the chain and when assembled to chain form a smooth continuous platform.

Two types of Chain are used on the Wood Apron Conveyors—Detachable Chain being used for the lighter conveyors while roller chains are used on the heavier ones.

Wood Apron using Detachable Chains (pages 204 and 206) with A-1 Attachments. Extensively used for transfer of packages, light merchandise, etc.

Wood Slats set close together and mounted upon Roller Chains. Used for heavier and more miscellaneous merchandise than conveyor illustrated at the left.

Wood Apron Conveyors

Determining Capacities of Jeffrey Standard Wood Apron Conveyors

THE capacities of the Standard Wood Apron Conveyors are dependent upon the weights and sizes of the packages to be handled and the spacing of same on the conveyor. It will be noted in the table below or in table of specifications on pages 205 to 217, that the Maximum Weight of Package, the Minimum Spacing of Same on Conveyor and the Average Load per lineal foot on conveyor, are given for each conveyor. These figures represent the maximum conditions under which the conveyors are figured for Horse-power and strength of terminals.

The maximum weight of package and the minimum spacing of same are in direct proportion, so by decreasing the weight of the package the spacing of same on the conveyor may also be decreased in proportion.

Example:

Conveyor No. 3015 is listed to handle 75 lb. packages spaced at intervals of 5 feet, or an average load on the conveyor of 15 lbs. per foot. If this same conveyor were handling packages weighing only 60 lbs. they could be spaced at intervals of 4 feet, 45 lb. package at intervals of 3 feet, etc.

How Many Packages per Hour

From the above it is evident that to arrive at a capacity of a wood apron conveyor in terms of packages handled per hour, it is first necessary to determine the spacing of packages on the conveyor, then with the speed of the conveyor known, which in the case of the wood aprons is 60 feet per minute, it is a simple matter to determine the number of packages any conveyor will handle in an hour.

Select First the Width of Apron

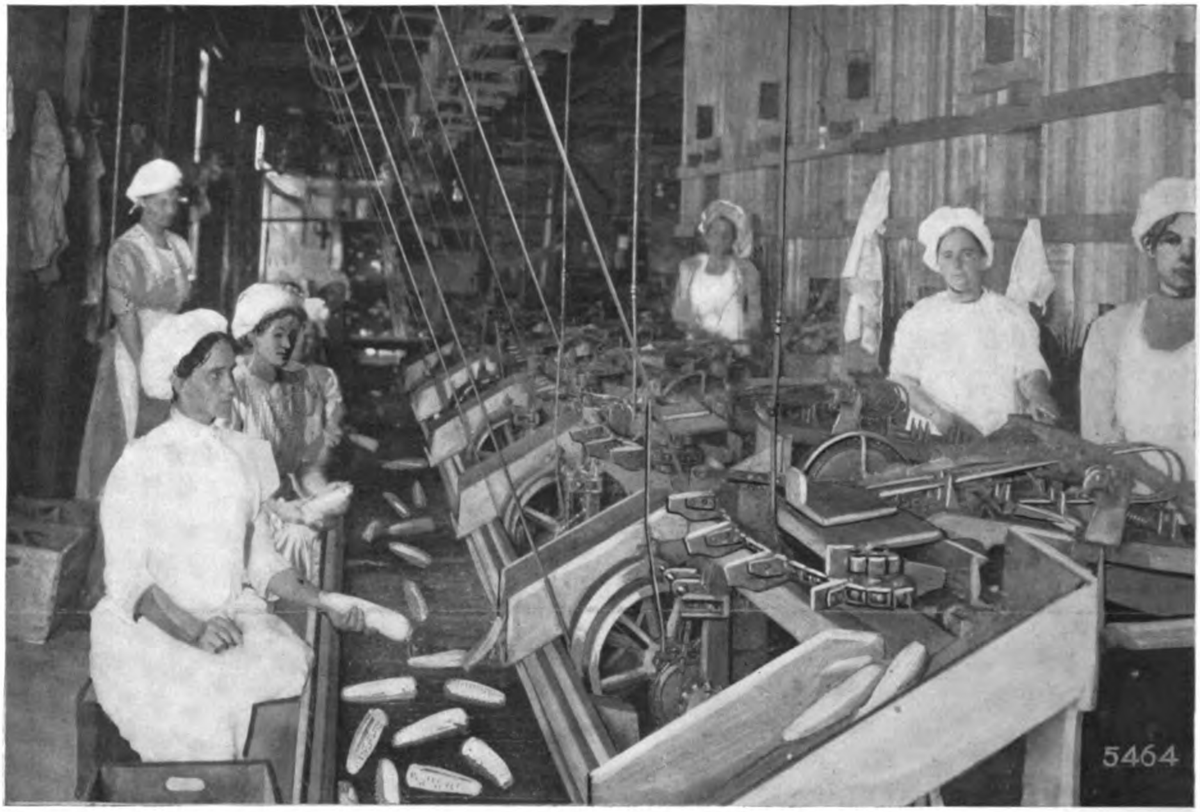
In determining the maximum load on the flights, the load was considered as being concentrated at the center of one flight, consequently, as the length of the flight increases, the thickness remaining the same, the load must decrease. Therefore in selecting a conveyor for a given service the width of the apron should be given first consideration and a conveyor selected with an apron of sufficient width to take care of the largest packages.

Table of Capacities and Index to Standard Wood Apron Conveyors

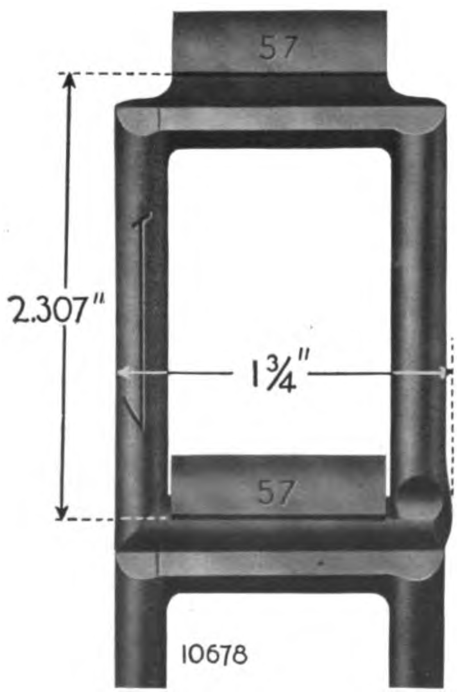
Width of Apron	Maximum weight of package in Lbs.	Minimum spacing in ft. per Max. weight Packages	Average load in lbs. per Lineal ft. of Conveyor	0 to 50 ft. Centers		51 to 100 ft. Centers		101 to 150 ft. Centers		151 to 200 ft. Centers	
				Conveyor No.	Page No.	Conveyor No.	Page No.	Conveyor No.	Page No.	Conveyor No.	Page No.
18	75	5.0	15	3015	205	3043	205	3071	205	......	......
18	95	5.3	18	3016	207	3044	207	3072	207	3100	207
18	100	5.5	18	3017	209	3045	209	3073	209	3101	209
18	150	6.0	25	3018	211	3046	211	3074	211	3102	211
24	45	2.2	20	3022	205	3050	205	......	......	......	......
24	53	2.0	25	3023	207	3051	207	3079	207	3107	207
24	60	2.4	25	3024	209	3052	209	3080	209	3108	209
24	80	2.4	33	3025	211	3053	211	3081	211	3109	211
24	500	10.0	50	3019	213	3047	213	3075	213	3103	213
24	500	10.0	50	3020	215	3048	215	3076	215	3104	215
30	30	1.2	25	3029	205	3057	205	......	......	......	......
30	35	1.15	30	3030	207	3058	207	3086	207	......	......
30	40	1.3	30	3031	209	3059	209	3087	209	3115	209
30	235	5.9	40	3032	211	3060	211	3088	211	3116	211
30	365	5.9	62	3026	213	3054	213	3082	213	3110	213
30	365	5.9	62	3027	215	3055	215	3083	215	3111	215
30	1600	19.3	83	3021	217	3049	217	3077	217	3105	217
36	30	1.0	30	3036	205	......	......	......	......	......	......
36	35	1.0	35	3037	207	3065	207	3093	207	......	......
36	35	1.0	35	3038	209	3066	209	3094	209	3122	209
36	165	3.3	50	3039	211	3067	211	3095	211	3123	211
36	650	8.7	75	3033	213	3061	213	3089	213	3117	213
36	650	8.7	75	3034	215	3062	215	3090	215	3118	215
36	1325	13.2	100	3028	217	3056	217	3084	217	3112	217
42	1040	8.9	117	3035	217	3063	217	3091	217	3119	217
48	390	3.9	100	3040	213	3068	213	3096	213	3124	213
48	390	3.9	100	3041	215	3069	215	3097	215	3125	215
48	800	6.0	133	3042	217	3070	217	3098	217	3126	217

For Figuring Horse Power of Wood Apron Conveyors, see page 169.

Wood Apron Conveyors

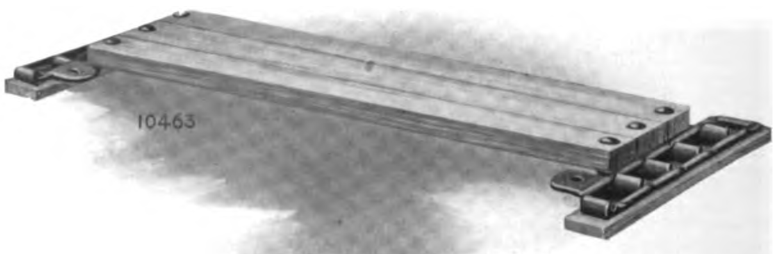


The large output of many industrial plants has been made possible by Jeffrey light, but durable Wood Apron Conveyors, which handle work or material in progress from operation to operation or from one department to another.



Long Service in Clean Operating Conditions

THE lightest of Jeffrey Standard Wood Aprons consists of ¾" wood slats mounted upon No. 57 Detachable Link Chains and is suited to the handling of boxes, cartons, bags, bundles, light machinery parts, cans, groceries, farm products, etc., within the "Maximum" and "Average" Loadings listed upon the opposite page or in any similar service where the operating conditions surrounding the conveyors are practically free from grit and the conveyor chains, sliding upon hardwood strips, are given an occasional oiling. Many of these conveyors are proving their worth in Cereal Mills, Bakeries, Canneries and numerous Manufacturing Industries, where full loads listed in Tables are in effect 3 to 4 hours daily or lighter loads for proportionately longer periods.



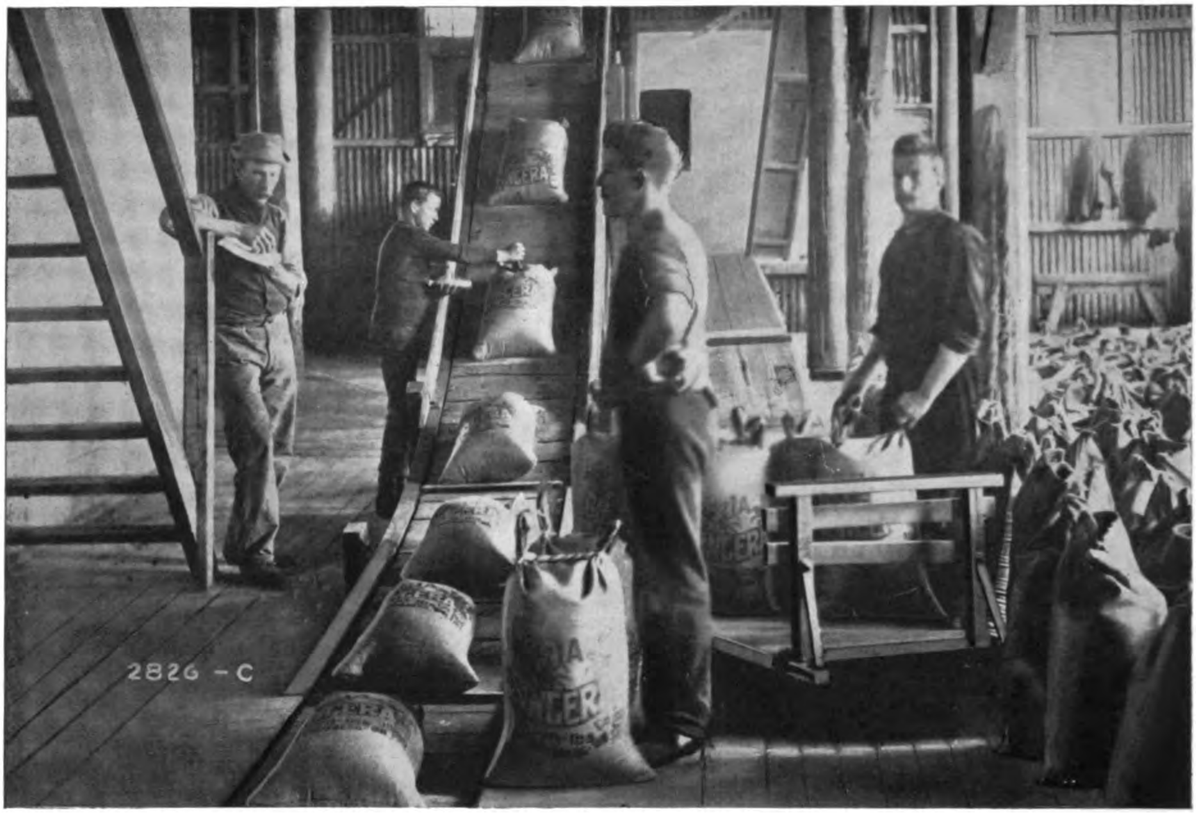
Wood Apron Conveyors

Specifications of Jeffrey Standard Wood Apron Conveyors Using No. 57-J Detachable Chain

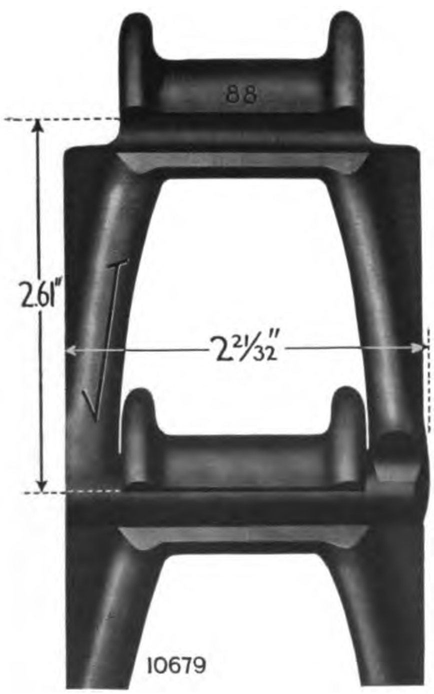
Length of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers			101 to 150 ft. Centers
No. of Conveyor	**3015**	**3022**	**3029**	**3036**	**3043**	**3050**	**3057**	**3071**
Size of Package								
Maximum Weight of Package in Pounds	75	45	30	30	75	45	30	75
Minimum Spacing in Feet for Max. Weight Package	5.0	2.2	1.2	1.0	5.0	2.2	1.2	5.0
Average Load in Pounds per Foot on Conveyor	15	20	25	30	15	20	25	15
Chain								
Number	57J	57J	57J	57J	57J	57J	57J	57J
Attachment	A-1	A-1	A-1	A-1	A-1	A-1	A-1	A-1
Pitch	2.307	2.307	2.307	2.307	2.307	2.307	2.307	2.307
Working Strength-Pounds	470	470	470	470	470	470	470	470
Flight								
Length of Flight	18	24	30	36	18	24	30	18
Thickness of Flight	¾	¾	¾	¾	¾	¾	¾	¾
Horse Power at Counter Shaft	.62	.8	.95	1.1	1.3	1.6	1.9	1.9
Head Shaft								
Diameter, Inches	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16
Rev. Per Minute	22	22	22	22	22	22	22	22
Size Sprockets, Inches	10½	10½	10½	10½	10½	10½	10½	10½
Diameter of Gear	17.84	17.84	17.84	17.84	17.84	17.84	17.84	17.84
Pitch of Gear	1	1	1	1	1	1	1	1
Face of Gear	2	2	2	2	2	2	2	2
Counter Shaft								
Diameter, Inches	1 3/16	1 3/16	1 3/16	1 3/16	1 3/16	1 7/16	1 7/16	1 7/16
Rev. per Minute	77	77	77	77	77	77	77	77
Diameter of Pinion	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12
Face of Pinion	2¾	2¾	2¾	2¾	2¾	2¾	2¾	2¾
Foot Shaft								
Diameter, Inches	1 3/16	1 3/16	1 3/16	1 3/16	1 3/16	1 7/16	1 7/16	1 7/16
Size Sprockets, Inches	10½	10½	10½	10½	10½	10½	10½	10½
Approximate Shipping Weight—Pounds								
Terminals, Complete	365	370	385	395	365	430	445	415
Apron Complete per Foot Centers	13	16	18	21	13	16	18	13

For Erection Dimensions of the above Conveyors, see page 218.

Wood Apron Conveyors

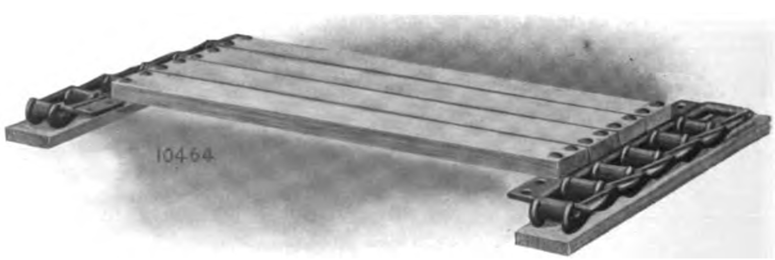


Along the horizontal and up steep inclines from one floor to another Jeffrey Wood Apron Conveyors have saved thousands of dollars of expense both in trucking and in the operation of platform Elevators which otherwise would have been required.



Handling Heavier Loads in Clean Operating Conditions

THE next step in service to the Wood Aprons shown on pages 204 and 205 covers the same size of slats shown there, but they are mounted upon No. 88 instead of No. 57 Detachable Link Chains. The No. 88 Chain is about twice as strong in both working strength and wearing qualities as the No. 57, thereby enabling the Aprons to carry somewhat heavier loads and to give about 3 to 4 hours longer daily service for the same life of the chains. These Aprons are also fitted to the handling of bags, boxes, loose merchandise, machinery parts, etc., under clean conditions, and, if necessary, in somewhat dusty surroundings such as are common to Flour Mills, Lime and Gypsum Works and other similar industries. Use hardwood strips under the Chains and oil the chain joints occasionally.



Wood Apron Conveyors

Specifications of Jeffrey Standard Wood Apron Conveyors Using No. 88-J Detachable Chain

Length of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers				101 to 150 ft. Centers				151 to 200 ft. Centers	
No. of Conveyor	**3016**	**3023**	**3030**	**3037**	**3044**	**3051**	**3058**	**3065**	**3072**	**3079**	**3086**	**3093**	**3100**	**3107**
Size of Package														
Max. Weight of Pkg. in Lbs.	95	53	35	35	95	53	35	35	95	53	35	35	95	53
Minimum Spacing in Ft. for Max. Weight Pkg.	5.3	2	1.15	1.0	5.3	2	1.15	1.0	5.3	2	1.15	1.0	5.3	2
Average Load in Lbs. per Foot on Conveyor	18	25	30	35	18	25	30	35	18	25	30	35	18	25
Chain														
Number	88J	88J	88J	88J	88J	88J	88J	88J	88J	88J	88J	88J	88J	88J
Attachment	A-11	A-11	A-11	A-11	A-11	A-11	A-11	A-11	A-11	A-11	A-11	A-11	A-11	A-11
Pitch	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61
Working Strength Pounds	960	960	960	960	960	960	960	960	960	960	960	960	960	960
Flight														
Length of Flight	18	24	30	36	18	24	30	36	18	24	30	36	18	24
Thickness of Flight	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
Horse Power at Counter Shaft	.86	1.1	1.23	1.4	1.7	2.1	2.5	2.8	2.6	3.2	3.7	4.2	3.4	4.2
Head Shaft														
Diameter, Inches	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$
Rev. per Minute	23	23	23	23	23	23	23	23	23	23	23	23	23	23
Size Sprockets, Inches	10¼	10¼	10¼	10¼	10¼	10¼	10¼	10¼	10¼	10¼	10¼	10¼	10¼	10¼
Diameter of Gear	17.84	17.84	17.84	17.84	17.84	17.84	17.84	17.84	17.84	19.91	19.91	19.91	19.91	19.91
Pitch of Gear	1	1	1	1	1	1	1	1	1	1¼	1¼	1¼	1¼	1¼
Face of Gear	2	2	2	2	2	2	2	2	2	3	3	3	3	3
Counter Shaft														
Diameter, Inches	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$
Rev. per Minute	80	80	80	80	80	80	80	80	80	76	76	76	76	76
Diam. of Pinion	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	6.01	6.01	6.01	6.01	6.01
Face of Pinion	2¾	2¾	2¾	2¾	2¾	2¾	2¾	2¾	2¾	3¼	3¼	3¼	3¼	3¼
Foot Shaft														
Diameter, Inches	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$
Size Sprockets, Inches	10¼	10¼	10¼	10¼	10¼	10¼	10¼	10¼	10¼	10¼	10¼	10¼	10¼	10¼
Approx. Shipping Weight—Lbs.														
Term. Complete	395	405	415	425	445	460	475	490	445	690	715	735	670	690
Apron Complete per Ft. Centers	21	23	26	29	21	23	26	29	21	23	26	29	21	23

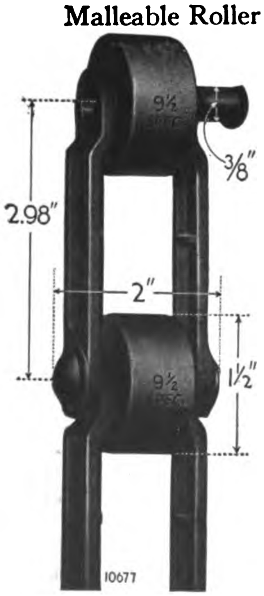
For Erection Dimensions of the above Conveyors, see page 218.

Wood Apron Conveyors

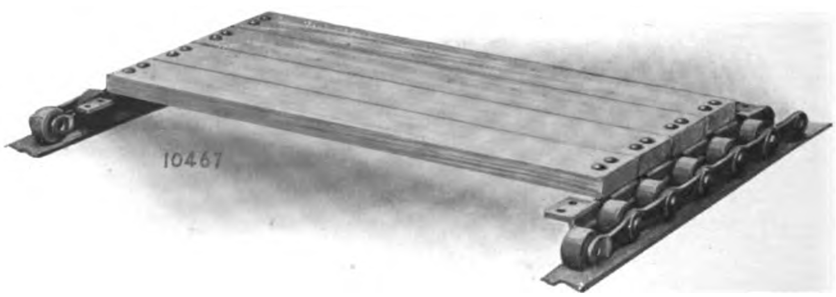
Whether built in as a Stationary Conveyor or made a part of a readily portable loader or stacker, Jeffrey Wood Apron Conveyors are daily making excellent records in the handling of large tonnage at very small operating costs.

Use of Roller Chains Insures Power Savings

THE next step in refinement of service to the wood apron conveyors illustrated on pages 204 and 206 is the same width and thickness of wood slats mounted upon Jeffrey No. 9½ Special Malleable Roller Chains.



The obvious refinement of the chains is the rollers, which not only enable the Aprons to operate with a marked saving in power for long conveyors, but also add much to the life of the Apron when running in the dusty and somewhat gritty conditions common to warehouses and shipping platforms of various industries. The satisfactory service life of these aprons is ordinarily obtained from about a 6 to 8 hour daily service in handling boxes, bags, bundles, merchandise, etc., within the range of the "Maximum" and "Average" Loadings listed upon the opposite page. Oil the Chain Rollers occasionally.



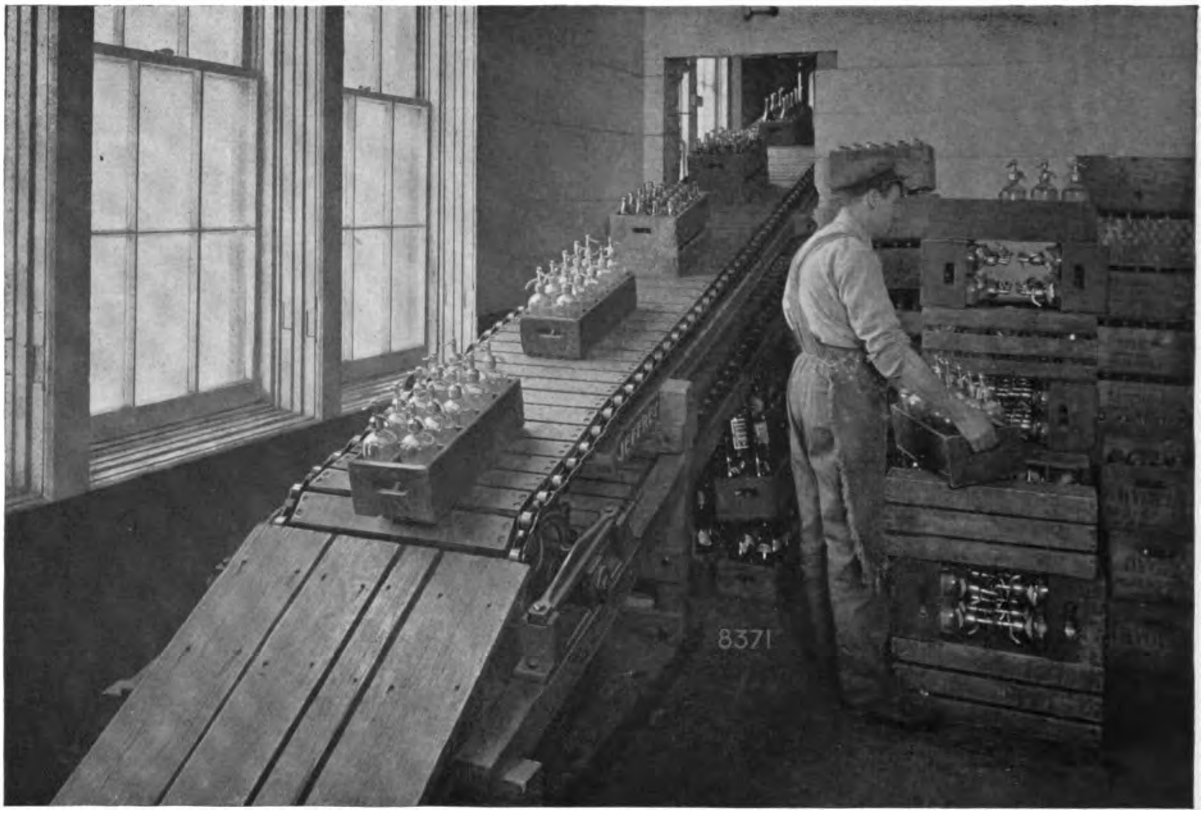
Wood Apron Conveyors

Specifications of Jeffrey Standard Wood Apron Conveyors Using No. 9½ Special Malleable Roller Chain

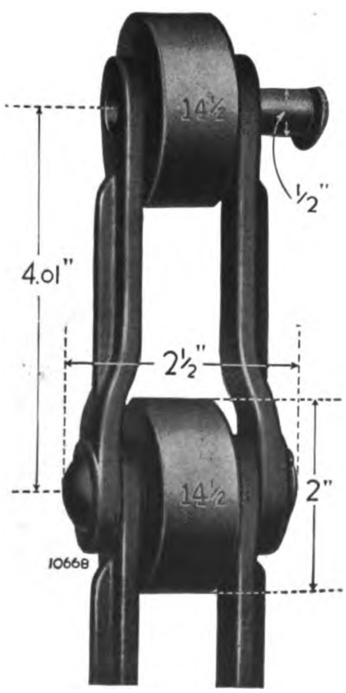
Length of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers				101 to 150 ft. Centers				151 to 200 ft. Centers			
No. of Conveyor	**3017**	**3024**	**3031**	**3038**	**3045**	**3052**	**3059**	**3066**	**3073**	**3080**	**3087**	**3094**	**3101**	**3108**	**3115**	**3122**
Size of Package																
Max. Weight of Pkg. in Lbs.	100	60	40	35	100	60	40	35	100	60	40	35	100	60	40	35
Min. Spacing in Ft. for Max. Weight Pkg.	5.5	2.4	1.3	1.0	5.5	2.4	1.3	1.0	5.5	2.4	1.3	1.0	5.5	2.4	1.3	1.0
Average Load in Lbs. per Ft. on Conveyor	18	25	30	35	18	25	30	35	18	25	30	35	18	25	30	35
Chain																
Number	9½Sp	9½Sp	9½Sp	9½Sp	9½Sp	9½Sp	9½Sp	9½Sp	9½Sp	9½Sp	9½Sp	9½Sp	9½Sp	9½Sp	9½Sp	9½Sp
Attachment	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1
Pitch	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98
Working Strength Lbs.	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950
Flight																
Length of Flight	18	24	30	36	18	24	30	36	18	24	30	36	18	24	30	36
Thickness of Flight	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
Horse Power at Counter Shaft	.50	.63	.74	.83	1.1	1.3	1.5	1.7	1.5	1.9	2.3	2.5	2.0	2.6	3.0	3.3
Head Shaft																
Diameter, In.	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16
Rev. per Minute	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Size Sprockets, Inches	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾
Diam. of Gear	17.84	17.84	17.84	17.84	17.84	17.84	17.84	17.84	17.84	19.91	19.91	19.91	19.91	19.91	19.91	19.91
Pitch of Gear	1	1	1	1	1	1	1	1	1	1¼	1¼	1¼	1¼	1¼	1¼	1¼
Face of Gear	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Counter Shaft																
Diameter, In.	1 3/16	1 3/16	1 3/16	1 3/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16
Rev. per Minute	84	84	84	84	84	84	84	84	84	80	80	80	80	80	80	80
Diam. of Pinion	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	6.01	6.01	6.01	6.01	6.01	6.01	6.01
Face of Pinion	2¾	2¾	2¾	2¾	2¾	2¾	2¾	2¾	2¾	3¼	3¼	3¼	3¼	3¼	3¼	3¼
Foot Shaft																
Diameter, In.	1 3/16	1 3/16	1 3/16	1 3/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16
Size Sprockets, Inches	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾
Approx. Shipping Weight—Lbs.																
Terminals, Complete	360	370	385	395	410	425	440	455	410	655	680	700	635	655	680	700
Apron Complete per Ft. Centers	20	23	26	28	20	23	26	28	20	23	26	28	20	23	26	28

For Erection Dimensions of the above Conveyors, see page 219.

Wood Apron Conveyors



By the use of this conveyor through a hole in the wall a remote storage space was readily utilized. In a like manner it may be possible for you to make a better manufacturing arrangement of your factory, mill or warehouse.



Very Durable Conveyors For Medium Service

MADE of ¾" thick wood slats for both 18" and 24" widths of Aprons and of 1¼" thickness for 30" and 36" widths the No. 14½ Malleable Roller Chains illustrated here, give the next logical step in service to the No. 9½ Special Malleable Roller Apron just previously illustrated on page 208. It is also the first step in the use of 1¼" slats to meet the abuse of rough usage incident to the handling of all kinds of miscellaneous merchandise and especially to the placing upon the Conveyor of the "Maximum" weight pieces as listed in the table on the opposite page. Ordinarily 6 to 8 hours daily use of the Apron in clean, dusty or somewhat gritty conditions, with the occasional oiling of the chains will assure long life to the conveyor.

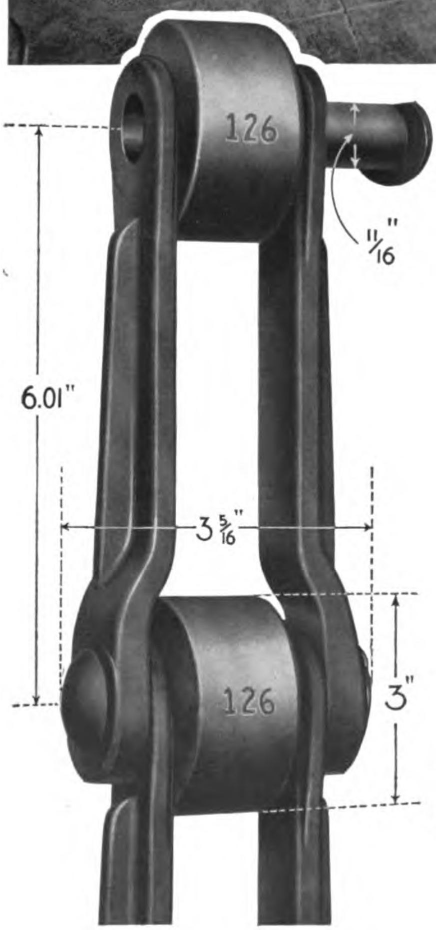
Wood Apron Conveyors

Specifications of Jeffrey Standard Wood Apron Conveyors Using No. 14½ Malleable Roller Chain

Length of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers				101 to 150 ft. Centers				151 to 200 ft. Centers			
No. of Conveyor	**3018**	**3025**	**3032**	**3039**	**3046**	**3053**	**3060**	**3067**	**3074**	**3081**	**3088**	**3095**	**3102**	**3109**	**3116**	**3123**
Size of Package																
Max. Weight of Pkg. in Lbs.	150	80	235	165	150	80	235	165	150	80	235	165	150	80	235	165
Min. Spacing in Ft. for Max. Weight Pkg.	6	2.4	5.9	3.3	6.0	2.4	5.9	3.3	6.0	2.4	5.9	3.3	6.0	2.4	5.9	3.3
Average Load in Lbs. per Ft. on Conveyor	25	33	40	50	25	33	40	50	25	33	40	50	25	33	40	50
Chain																
Number	14½	14½	14½	14½	14½	14½	14½	14½	14½	14½	14½	14½	14½	14½	14½	14½
Attachment	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1
Pitch	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01
Working Strength Lbs.	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Flight																
Length of Flight	18	24	30	36	18	24	30	36	18	24	30	36	18	24	30	36
Thickness of Flight	¾	¾	1¼	1¼	¾	¾	1¼	1¼	¾	¾	1¼	1¼	¾	¾	1¼	1¼
Horse Power at Counter Shaft	.70	.85	1.1	1.3	1.4	1.7	2.2	2.6	2.1	2.5	3.3	3.8	2.8	3.4	4.3	5.2
Head Shaft																
Diameter, In.	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16
Rev. per Minute	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Size Sprockets, Inches	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½
Diam. of Gear	17.84	17.84	17.84	17.84	17.84	17.84	17.84	17.84	17.84	19.91	19.91	19.91	19.91	19.91	19.91	19.91
Pitch of Gear	1	1	1	1	1	1	1	1	1	1¼	1¼	1¼	1¼	1¼	1¼	1¼
Face of Gear	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Counter Shaft																
Diameter, In.	1 3/16	1 3/16	1 3/16	1 3/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16
Rev. per Minute	77	77	77	77	77	77	77	77	77	74	74	74	74	74	74	74
Diam. of Pinion	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	6.01	6.01	6.01	6.01	6.01	6.01	6.01
Face of Pinion	2¾	2¾	2¾	2¾	2¾	2¾	2¾	2¾	2¾	3¼	3¼	3¼	3¼	3¼	3¼	3¼
Foot Shaft																
Diameter, In.	1 3/16	1 3/16	1 3/16	1 3/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16
Size Sprockets, Inches	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½	10½
Approx. Shipping Weight—Lbs.																
Terminals, Complete	425	435	460	470	475	490	520	535	475	720	755	780	700	720	755	780
Apron Complete per Ft. Centers	28	31	42	46	28	31	42	46	28	31	42	46	28	31	42	46

For Erection Dimensions of the above Conveyors, see page 219.

Wood Apron Conveyors



Cleats placed at intervals upon the wood slats of an Apron Conveyor enable it to carry up or down steep inclines, thus assuring that reliability of service which is so necessary to continuous service.

Heavy Slats Will Stand Much Hard Usage

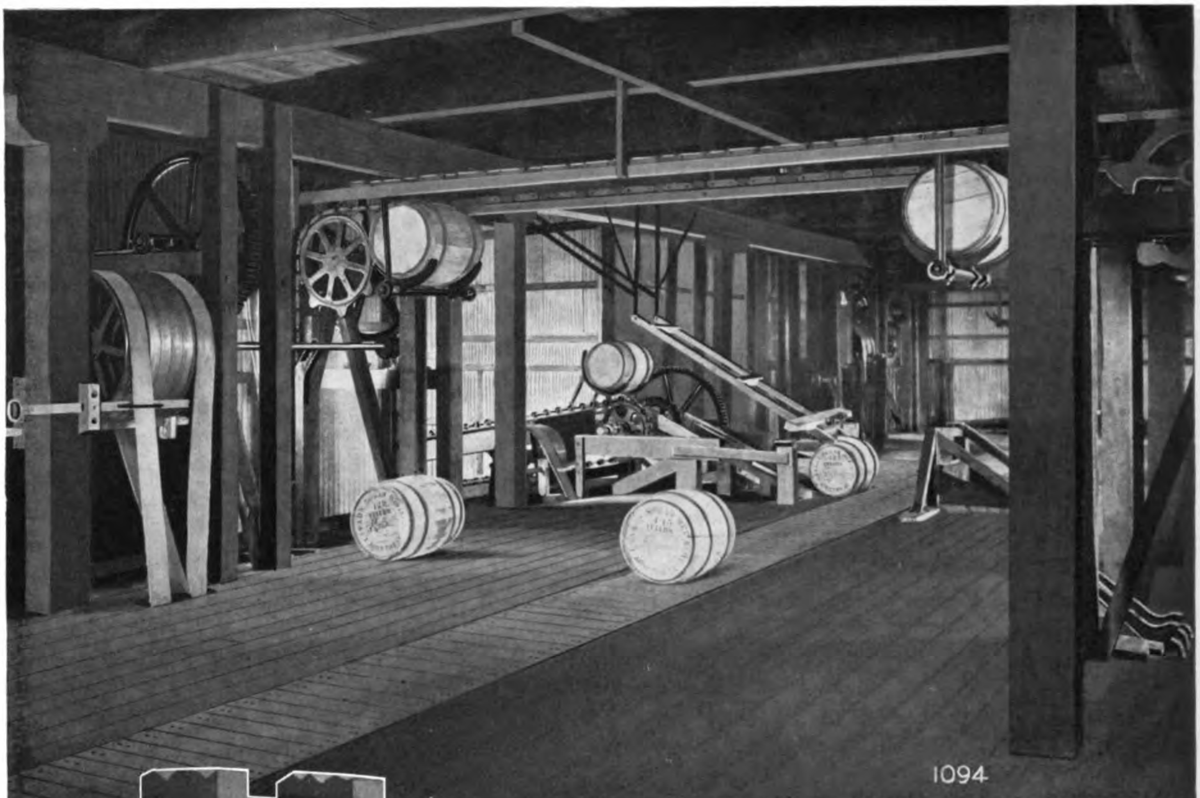
NO. 126-C Malleable Roller Chain with 3″ diameter rollers and $\frac{11}{16}$″ steel rivet pins introduces "Jeffrey" general all-around service Wood Apron Conveyors. They are the first of what may be termed a "heavier type" of Conveyor as compared to those noted upon the previous pages. They are the first in 48″ widths, and also the first of those having 1¾″ thickness of slats, thereby making them capable of handling not only large shipping crates and boxes, but also rough castings, bricks, stones, etc. It is not uncommon to put this apron into 8 to 10 hour continuous service in storage buildings, warehouses and industrial plants. Oil chain joints a little at regular intervals.

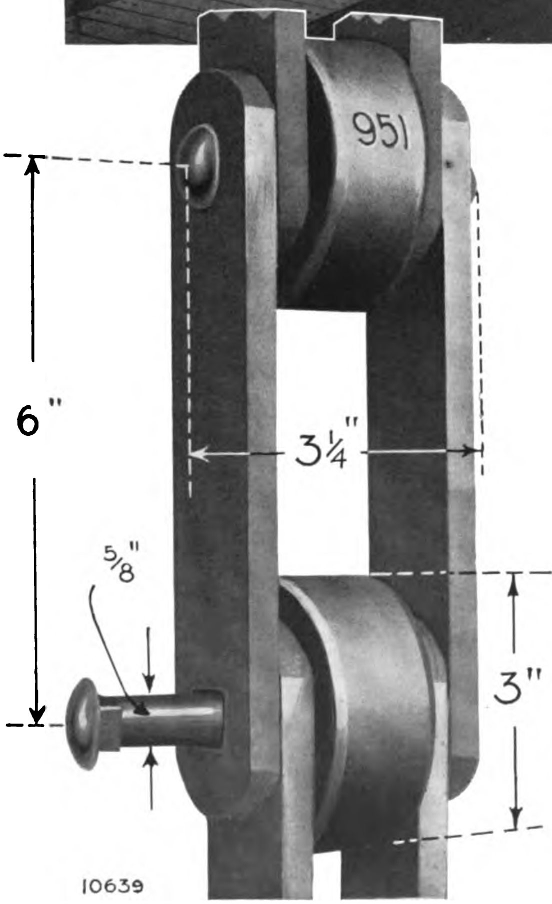
Specifications of Jeffrey Standard Wood Apron Conveyors Using No. 126-C Malleable Roller Chain

Length of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers				101 to 150 ft. Centers				151 to 200 ft. Centers			
No. of Conveyor	**3019**	**3026**	**3033**	**3040**	**3047**	**3054**	**3061**	**3068**	**3075**	**3082**	**3089**	**3096**	**3103**	**3110**	**3117**	**3124**
Size of Package																
Max. Weight of Pkg. in Lbs.	500	365	650	390	500	365	650	390	500	365	650	390	500	365	650	390
Min. Spacing in Ft. for Max. Weight Pkg.	10	5.9	8.7	3.9	10	5.9	8.7	3.9	10	5.9	8.7	3.9	10	5.9	8.7	3.9
Average Load in Lbs. per Ft. on Conveyor	50	62	75	100	50	62	75	100	50	62	75	100	50	62	75	100
Chain																
Number	126C	126C	126C	126C	126C	126C	126C	126C	126C	126C	126C	126C	126C	126C	126C	126C
Attachment	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1
Pitch	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Working Strength-Lbs.	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100
Flight																
Length of Flight	24	30	36	48	24	30	36	48	24	30	36	48	24	30	36	48
Thickness of Flight	1¼	1¼	1¾	1¾	1¼	1¼	1¾	1¾	1¼	1¼	1¾	1¾	1¼	1¼	1¾	1¾
Horse Power at Counter Shaft	1.4	1.6	2.0	2.5	2.8	3.2	4.0	5.0	4.1	4.8	5.9	7.4	5.5	6.4	7.9	9.9
Head Shaft																
Diameter, In.	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16	2 7/16	2 15/16	2 15/16	2 15/16
Rev. per Minute	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Size Sprockets, Inches	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼
Diam. of Gear	23.89	23.89	23.89	23.89	23.89	23.89	25.07	25.07	25.07	25.07	25.07	32.00	25.07	32.00	32.00	32.00
Pitch of Gear	1	1	1	1	1	1	1¼	1¼	1¼	1¼	1¼	1½	1¼	1½	1½	1½
Face of Gear	2½	2½	2½	2½	2½	2½	3	3	3	3	3	4	3	4	4	4
Counter Shaft																
Diameter, In.	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	2 7/16	2 7/16	2 7/16
Rev. per Minute	94	94	94	94	94	94	84	84	84	84	84	89	84	89	89	89
Diam. of Pinion	5.12	5.12	5.12	5.12	5.12	5.12	6.01	6.01	6.01	6.01	6.01	7.22	6.01	7.22	7.22	7.22
Face of Pinion	2¾	2¾	2¾	2¾	2¾	2¾	3¼	3¼	3¼	3¼	3¼	4½	3¼	4½	4½	4½
Foot Shaft																
Diameter, In.	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	2 7/16	2 7/16	2 7/16
Size Sprockets, Inches	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼
Approx. Shipping Weight—Lbs.																
Terminals Complete	580	600	635	675	755	780	885	935	815	840	885	1270	815	1145	1200	1270
Apron Complete per Ft. Centers	54	58	74	87	54	58	74	87	54	58	74	87	54	58	74	87

For Erection Dimensions of the above Conveyors, see page 220.

Wood Apron Conveyors

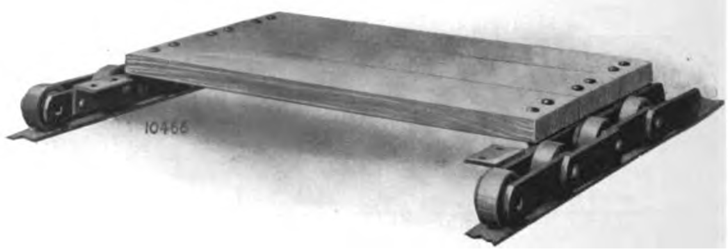




A slowly moving wood apron set in level with the floor, thus virtually occupying no storage space and requiring no lifting from truck to the conveyor, quickly pays for itself in labor saved.

Steel Chains Add To Service Qualities

APRONS mounted upon No. 951 Chains are in all respects the same as those given for No. 126-C Chains on pages 212 and 213. Both Chains are virtually the same in general dimensions, in fact they operate over the same sprocket wheels, the chief difference being that the No. 951 is practically of all steel construction, with hardened steel wearing thimbles upon which revolve hard cast iron rollers and thru which pass hardened steel pins, while the No. 126-C is of malleable construction throughout except for its steel pins. Both Chains are designed to operate under exactly the same conditions but with the steel chain to be given preference for long hours of service in somewhat abrasive conditions such as ordinarily exist about raw materials in Fertilizer Plants, Quarries, and Cement Mills.



Wood Apron Conveyors

Specifications of Jeffrey Standard Wood Apron Conveyors Using No. 951 Steel Thimble Roller Chain

Length of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers				101 to 150 ft. Centers				151 to 200 ft. Centers			
No. of Conveyor	**3020**	**3027**	**3034**	**3041**	**3048**	**3055**	**3062**	**3069**	**3076**	**3083**	**3090**	**3097**	**3104**	**3111**	**3118**	**3125**
Size of Package																
Max. Weight of Pkg. in Lbs.	500	365	650	390	500	365	650	390	500	365	650	390	500	365	650	390
Min. Spacing in Ft. for Max. Weight Pkg.	10	5.9	8.7	3.9	10	5.9	8.7	3.9	10	5.9	8.7	3.9	10	5.9	8.7	3.9
Average Load in Lbs. per Ft. on Conveyor	50	62	75	100	50	62	75	100	50	62	75	100	50	62	75	100
Chain																
Number	951	951	951	951	951	951	951	951	951	951	591	951	951	951	951	951
Attachment	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½
Pitch	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Working Strength-Lbs.	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750
Flight																
Length of Flight	24	30	36	48	24	30	36	48	24	30	36	48	24	30	36	48
Thickness of Flight	1¼	1¼	1¾	1¾	1¼	1¼	1¾	1¾	1¼	1¼	1¾	1¾	1¼	1¼	1¾	1¾
Horse Power at Counter Shaft	1.4	1.6	1.9	2.3	2.8	3.2	3.8	4.6	4.1	4.6	5.6	6.9	5.4	6.2	7.5	9.2
Head Shaft																
Diameter, In.	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16	2 7/16	2 15/16	2 15/16	2 15/16
Rev. per Minute	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Size Sprockets, Inches	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼
Diam. of Gear	23.89	23.89	23.89	23.89	23.89	23.89	25.07	25.07	25.07	25.07	25.07	32.00	25.07	32.00	32.00	32.00
Pitch of Gear	1	1	1	1	1	1	1¼	1¼	1¼	1¼	1¼	1½	1¼	1½	1½	1½
Face of Gear	2½	2½	2½	2½	2½	2½	3	3	3	3	3	4	3	4	4	4
Counter Shaft																
Diameter, In.	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	2 7/16	2 7/16	2 7/16
Rev. per Minute	94	94	94	94	94	94	84	84	84	84	84	89	84	89	89	89
Diam. of Pinion	5.12	5.12	5.12	5.12	5.12	5.12	6.01	6.01	6.01	6.01	6.01	7.22	6.01	7.22	7.22	7.22
Face of Pinion	2¾	2¾	2¾	2¾	2¾	2¾	3¼	3¼	3¼	3¼	3¼	4½	3¼	4½	4½	4½
Foot Shaft																
Diameter, In.	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	2 7/16	2 7/16	2 7/16
Size Sprockets, Inches	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼	12¼
Approx. Shipping Weight—Lbs.																
Terminals, Complete	610	640	665	710	785	815	915	970	845	875	915	1305	845	1180	1230	1305
Apron Complete per Ft. Centers	74	78	95	108	74	78	95	108	74	78	95	108	74	78	95	108

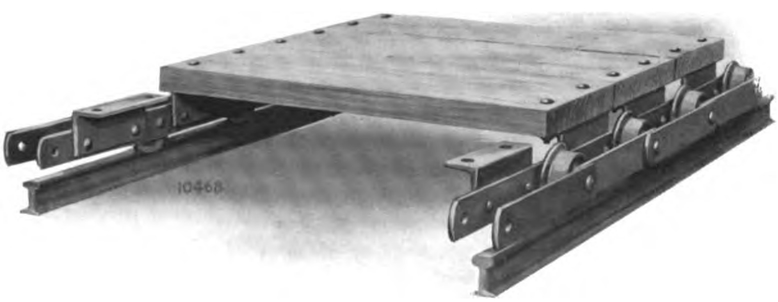
For Erection Dimensions of the above Conveyors, see page 220.

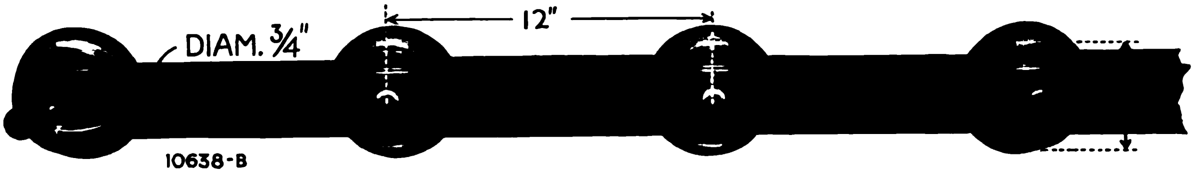
Wood Apron Conveyors

Side boards to a Wood Apron Conveyor in any overhead construction between departments in the same building or between separate buildings give an extra assurance of safety to employees and pedestrians.

Strongest Aprons Have Wide Range of Service

THESE are the heaviest Jeffrey Wood Apron Conveyors. With their 12″ width and 1¾″ thickness of slats made up in 30″, 36″, 42″ and 48″ lengths, mounted upon No. 276 steel chains having hardened thimble bushings and 4″ cast flanged rollers, these Aprons are without a peer for the handling of large bales, barrels, carboys, heavy castings, pig iron, complete machines, paving bricks, stone, etc. See Loadings in Tables upon opposite page. They are indeed the prime movers in any manufacturing or industrial system where a continuous flow must be maintained to or from the warehouse or shipping platform for large and heavy raw materials or finished products. Reasonable care and occasional lubrication will insure long life to these conveyors.





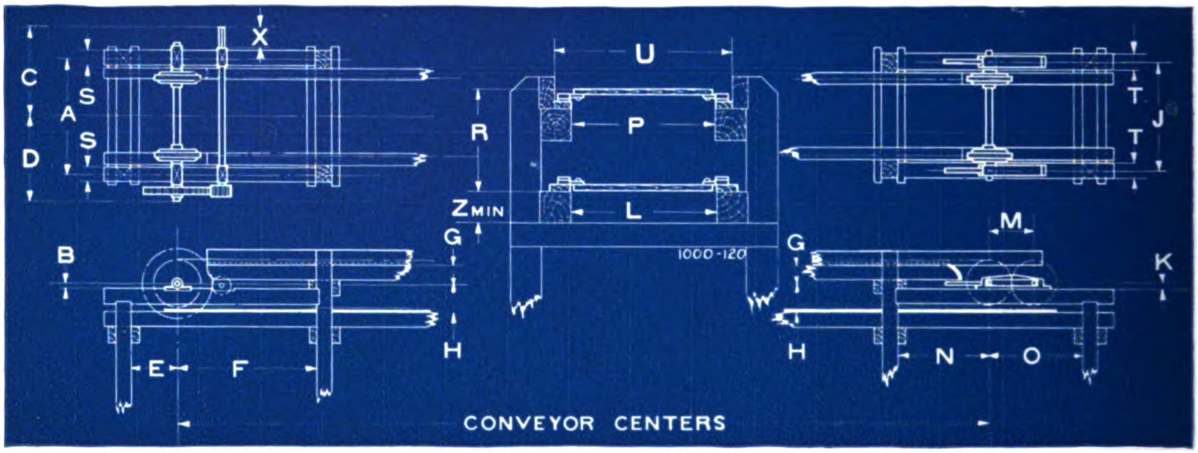
Specifications of Jeffrey Standard Wood Apron Conveyors Using No. 276 Steel Thimble Roller Chain

Length of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers				101 to 150 ft. Centers				151 to 200 ft. Centers			
No. of Conveyor	3021	3028	3035	3042	3049	3056	3063	3070	3077	3084	3091	3098	3105	3112	3119	3126
Size of Package																
Max. Weight of Pkg. in Lbs.	1600	1325	1040	800	1600	1325	1040	800	1600	1325	1040	800	1600	1325	1040	800
Min. Spacing in Ft. for Max. Weight Pkg.	19.3	13.2	8.9	6.0	19.3	13.2	8.9	6.0	19.3	13.2	8.9	6.0	19.3	13.2	8.9	6.0
Average Load in Lbs. per Ft. on Conveyor	83	100	117	133	83	100	117	133	83	100	117	133	83	100	117	133
Chain																
Number	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276
Attachment	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½	K-2½
Pitch	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Working Strength-Lbs.	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200
Flight																
Length of Flight	30	36	42	48	30	36	42	48	30	36	42	48	30	36	42	48
Thickness of Flight	1¾	1¾	1¾	1¾	1¾	1¾	1¾	1¾	1¾	1¾	1¾	1¾	1¾	1¾	1¾	1¾
Horse Power at Counter Shaft	2.0	2.2	2.5	2.8	4.0	4.5	5.0	5.5	5.9	6.7	7.4	8.2	7.9	8.9	9.9	10.9
Head Shaft																
Diameter, In.	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	3 7/16	3 7/16	3 15/16	3 7/16	3 15/16	3 15/16	3 15/16
Rev. per Minute	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Size Sprockets, Inches	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Diam. of Gear	38.60	38.60	38.60	38.60	38.60	38.60	38.60	38.60	38.60	40.12	40.12	40.12	40.12	40.12	41.24	41.24
Pitch of Gear	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1½	1½	1½	1½	1½	1¾	1¾
Face of Gear	3	3	3	3	3	3	3	3	3	4	4	4	4	4	6	6
Counter Shaft																
Diameter, In.	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 11/16	2 11/16	2 15/16	2 11/16	2 15/16	2 15/16	2 15/16
Rev. per Minute	65	65	65	65	65	65	65	65	65	56	56	56	56	56	49	49
Diam. of Pinion	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	7.22	7.22	7.22	7.22	7.22	8.42	8.42
Face of Pinion	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	4½	4½	4½	4½	4½	6⅜	6⅜
Foot Shaft																
Diameter, In.	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16	2 7/16	2 15/16	2 15/16	2 15/16
Size Sprockets, Inches	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Approx. Shipping Weight—Lbs.																
Terminals, Complete	1700	1745	1780	1820	1885	1930	1980	2025	1885	2220	2275	2855	2165	2730	3050	3115
Apron Complete per Ft. Centers	95	102	108	115	95	102	108	115	95	102	108	115	95	102	108	115

For Erection Dimensions of the above Conveyors, see page 221.

Wood Apron Conveyors

General Dimensions of Jeffrey Standard Wood Apron Conveyors



Using No. 57-J Detachable Chain. Dimensions in Inches

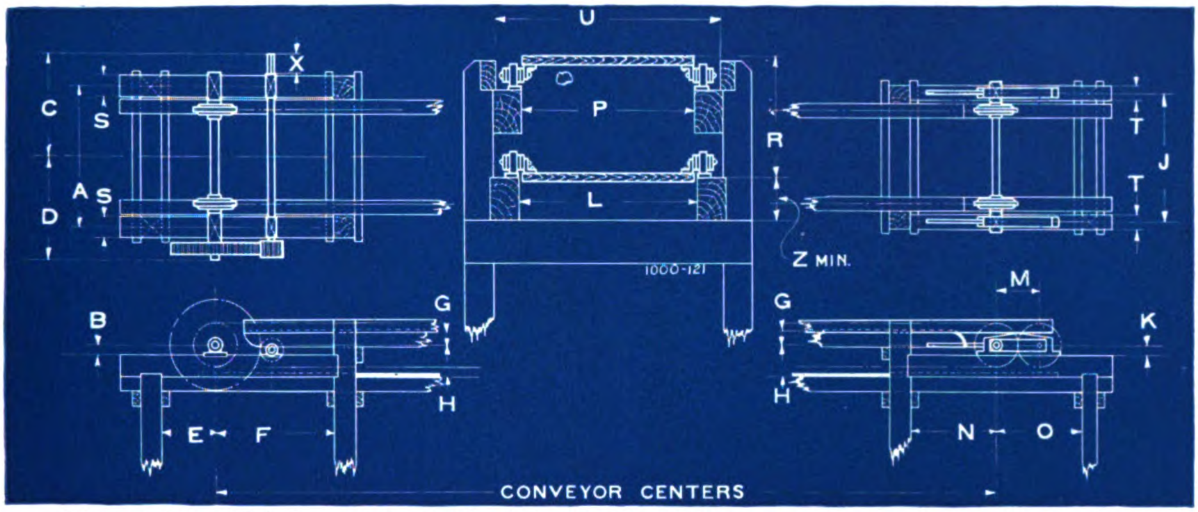
Length of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers			101 to 150 ft. Centers
No. of Conveyor	3015	3022	3029	3036	3043	3050	3057	3071
A	28	34	40	46	28	36	42	30
B	15/16	15/16	15/16	15/16	15/16	1 3/16	1 3/16	1 3/16
C	21 7/8	24 7/8	27 7/8	30 7/8	21 7/8	26 1/4	29 1/4	23 1/4
D	19 1/2	22 1/2	25 1/2	28 1/2	19 1/2	25 1/4	28 1/4	22 1/4
E	12	12	12	12	12	12	12	12
F	36	36	36	36	36	36	36	36
G	3 7/8	3 7/8	3 7/8	3 7/8	3 7/8	3 7/8	3 7/8	3 7/8
H	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4
J	28	34	40	46	28	34	40	28
K	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4
L	18 3/4	24 3/4	30 3/4	36 3/4	18 3/4	24 3/4	30 3/4	18 3/4
M	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4
N	24	24	24	24	24	24	24	24
O	24	24	24	24	24	24	24	24
P	18 1/2	24 1/2	30 1/2	36 1/2	18 1/2	24 1/2	30 1/2	18 1/2
R	13 1/4	13 1/4	13 1/4	13 1/4	13 1/4	13 1/4	13 1/4	13 1/4
S	4	4	4	4	4	4	4	4
T	4	4	4	4	4	4	4	4
U	23	29	35	41	23	29	35	23
X	6	6	6	6	6	6	6	6
Z	4	4	4	4	4	4	4	4

Using No. 88-J Detachable Chain. Dimensions in Inches

Length of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers				101 to 150 ft. Centers				151 to 200 ft. Centers	
No. of Conveyor	3016	3023	3030	3037	3044	3051	3058	3065	3072	3079	3086	3093	3100	3107
A	29 1/8	35 1/8	41 1/8	47 1/8	30 5/8	36 5/8	42 5/8	48 5/8	30 5/8	38 7/8	44 7/8	50 7/8	32 7/8	38 7/8
B	15/16	15/16	15/16	15/16	1 3/16	1 3/16	1 3/16	1 3/16	1 3/16	2 5/8	2 5/8	2 5/8	2 5/8	2 5/8
C	22 1/2	25 1/2	28 1/2	31 1/2	23 5/8	26 5/8	29 5/8	32 5/8	23 5/8	28 1/2	31 1/2	34 1/2	25 1/2	28 1/2
D	20 1/8	23 1/8	26 1/8	29 1/8	22 5/8	25 5/8	28 5/8	31 5/8	22 5/8	28 1/4	31 1/4	34 1/4	25 1/4	28 1/4
E	12	12	12	12	12	12	12	12	12	12	12	12	12	12
F	36	36	36	36	36	36	36	36	36	36	36	36	36	36
G	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8
H	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4
J	29 1/8	35 1/8	41 1/8	47 1/8	29 1/8	35 1/8	41 1/8	47 1/8	29 1/8	36 1/8	42 1/8	48 1/8	30 1/8	36 1/8
K	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4
L	18 3/4	24 3/4	30 3/4	36 3/4	18 3/4	24 3/4	30 3/4	36 3/4	18 3/4	24 3/4	30 3/4	36 3/4	18 3/4	24 3/4
M	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	11 3/4	12	12	12	12	12
N	24	24	24	24	24	24	24	24	24	24	24	24	24	24
O	24	24	24	24	24	24	24	24	24	24	24	24	24	24
P	17 3/4	23 3/4	29 3/4	35 3/4	17 3/4	23 3/4	29 3/4	35 3/4	17 3/4	23 3/4	29 3/4	35 3/4	17 3/4	23 3/4
R	13	13	13	13	13	13	13	13	13	13	13	13	13	13
S	4	4	4	4	4	4	4	4	4	6	6	6	6	6
T	4	4	4	4	4	4	4	4	4	4	4	4	4	4
U	24 3/4	30 3/4	36 3/4	42 3/4	24 3/4	30 3/4	36 3/4	42 3/4	24 3/4	30 3/4	36 3/4	42 3/4	24 3/4	30 3/4
X	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Z	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Wood Apron Conveyors

General Dimensions of Jeffrey Standard Wood Apron Conveyors



Using No. 9½ Special Malleable Roller Chain. Dimensions in Inches

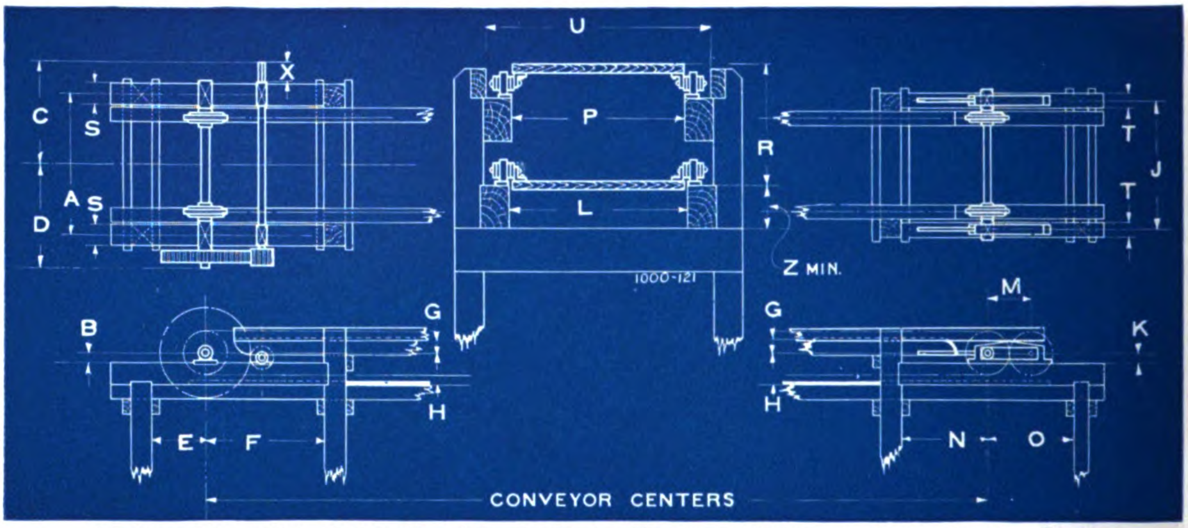
Length of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers				101 to 150 ft. Centers				151 to 200 ft. Centers			
No. of Conveyor	3017	3024	3031	3038	3045	3052	3059	3066	3073	3080	3087	3094	3101	3108	3115	3122
A	27⅞	33⅞	39⅞	45⅞	29⅜	35⅜	41⅜	47⅜	29⅜	37⅝	43⅝	49⅝	31⅝	37⅝	43⅝	49⅝
B	$\frac{15}{16}$	$\frac{15}{16}$	$\frac{15}{16}$	$\frac{15}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝
C	21⅞	24⅞	27⅞	30⅞	23	26	29	32	23	27⅞	30⅞	33⅞	24⅞	27⅞	30⅞	33⅞
D	19½	22½	25½	28½	22	25	28	31	22	27⅝	30⅝	33⅝	24⅝	27⅝	30⅝	33⅝
E	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
F	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
G	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝
H	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞	6⅞
J	27⅞	33⅞	39⅞	45⅞	27⅜	33⅜	39⅜	45⅜	27⅜	34⅞	40⅞	46⅞	28⅞	34⅞	40⅞	46⅞
K	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2¾	2¾	2¾	2¾	2¾	2¾	2¾
L	18⅝	24⅝	30⅝	36⅝	18⅝	24⅝	30⅝	36⅝	18⅝	24⅝	30⅝	36⅝	18⅝	24⅝	30⅝	36⅝
M	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	12	12	12	12	12	12	12
N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
O	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
P	17⅞	23⅞	29⅞	35⅞	17⅞	23⅞	29⅞	35⅞	17⅞	23⅞	29⅞	35⅞	17⅞	23⅞	29⅞	35⅞
R	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
S	4	4	4	4	4	4	4	4	4	6	6	6	6	6	6	6
T	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
U	23	29	35	41	23	29	35	41	23	29	35	41	23	29	35	41
X	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Z	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Using No. 14½ Malleable Roller Chain. Dimensions in Inches

Length of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers				101 to 150 ft. Centers				151 to 200 ft. Centers			
No. of Conveyor	3018	3025	3032	3039	3046	3053	3060	3067	3074	3081	3088	3095	3102	3109	3116	3123
A	28¾	34¾	40¾	46¾	29¾	35¾	41¾	47¾	29¾	38	44	50	32	38	44	50
B	$\frac{15}{16}$	$\frac{15}{16}$	$\frac{15}{16}$	$\frac{15}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝	2⅝
C	22¼	25¼	28¼	31¼	23⅛	26⅛	29⅛	32⅛	23⅛	28	31	34	25	28	31	34
D	19⅞	22⅞	25⅞	28⅞	22⅛	25⅛	28⅛	31⅛	22⅛	27¾	30¾	33¾	24¾	27¾	30¾	33¾
E	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
F	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
G	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝	3⅝
H	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½	7½
J	28¾	34¾	40¾	46¾	28¾	34¾	40¾	46¾	28¾	35¼	41¼	47¼	29¼	35¼	41¼	47¼
K	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2¼	2¾	2¾	2¾	2¾	2¾	2¾	2¾
L	18¾	24¾	30¾	36¾	18¾	24¾	30¾	36¾	18¾	24¾	30¾	36¾	18¾	24¾	30¾	36¾
M	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	11¾	12	12	12	12	12	12	12
N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
O	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
P	18¼	24¼	30¼	36¼	18¼	24¼	30¼	36¼	18¼	24¼	30¼	36¼	18¼	24¼	30¼	36¼
R	14	14	14½	14½	14	14	14½	14½	14	14	14½	14½	14	14	14½	14½
S	4	4	4	4	4	4	4	4	4	6	6	6	6	6	6	6
T	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
U	23¾	29¾	35¾	41¾	23¾	29¾	35¾	41¾	23¾	29¾	35¾	41¾	23¾	29¾	35¾	41¾
X	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Z	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Wood Apron Conveyors

General Dimensions of Jeffrey Standard Wood Apron Conveyors



Using No. 126-C Malleable Roller Chain. Dimensions in Inches

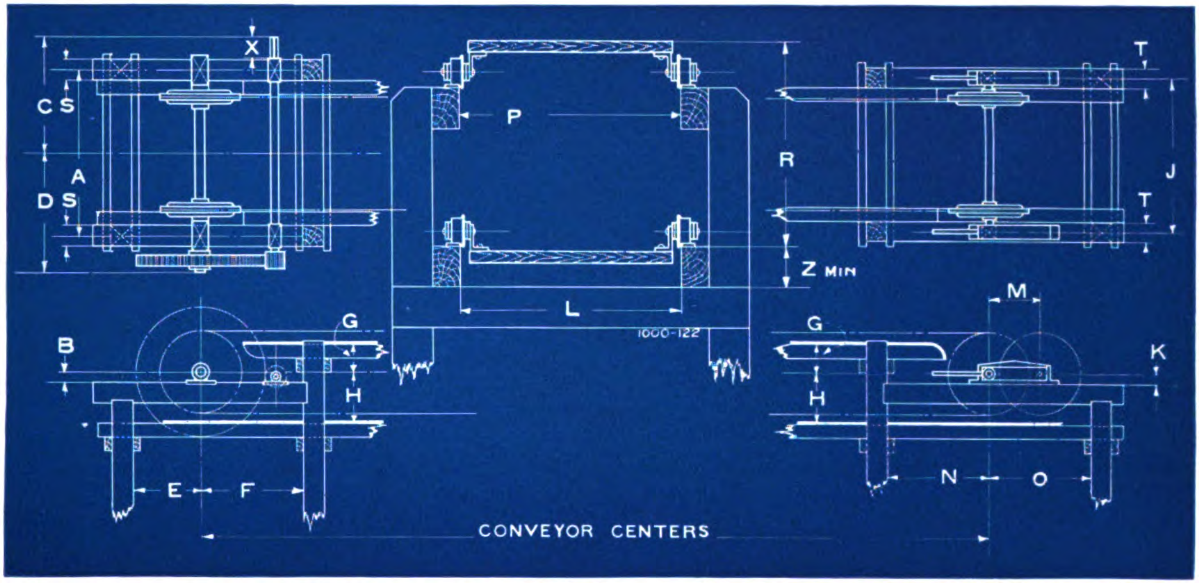
Length of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers				101 to 150 ft. Centers				151 to 200 ft. Centers			
No. of Conveyor	3019	3026	3033	3040	3047	3054	3061	3068	3075	3082	3089	3096	3103	3110	3117	3124
A	36	42	48	60	38 1/4	44 1/4	50 1/4	62 1/4	38 1/4	44 1/4	50 1/4	64	38 1/4	46	52	64
B	1 3/16	1 3/16	1 3/16	1 3/16	2 5/8	2 5/8	2 5/8	2 5/8	2 5/8	2 5/8	2 5/8	3 1/8	2 5/8	3 1/8	3 1/8	3 1/8
C	26 1/4	29 1/4	32 1/4	38 1/4	28 1/8	31 1/8	34 1/8	40 1/8	28 1/8	31 1/8	34 1/8	41 3/4	28 1/8	32 3/4	35 3/4	41 3/4
D	25 1/4	28 1/4	31 1/4	37 1/4	27 7/8	30 7/8	33 7/8	39 7/8	27 7/8	30 7/8	33 7/8	41 3/4	27 7/8	32 3/4	35 3/4	41 3/4
E	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
F	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
G	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8
H	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8
J	36	42	48	60	35 1/2	41 1/2	47 1/2	59 1/2	35 1/2	41 1/2	47 1/2	61 1/4	35 1/2	43 1/4	49 1/4	61 1/4
K	2 1/4	2 1/4	2 1/4	2 1/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	3 1/8	2 3/4	3 1/8	3 1/8	3 1/8
L	24 3/4	30 3/4	36 3/4	48 3/4	24 3/4	30 3/4	36 3/4	48 3/4	24 3/4	30 3/4	36 3/4	48 3/4	24 3/4	30 3/4	36 3/4	48 3/4
M	11 3/4	11 3/4	11 3/4	11 3/4	12	12	12	12	12	12	12	15	12	15	15	15
N	24	24	24	24	24	24	24	24	24	24	24	30	24	30	30	30
O	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
P	24	30	36	48	24	30	36	48	24	30	36	48	24	30	36	48
R	16 13/16	16 13/16	17 5/16	17 5/16	16 13/16	16 13/16	17 5/16	17 5/16	16 13/16	16 13/16	17 5/16	17 5/16	16 13/16	16 13/16	17 5/16	17 5/16
S	4	4	4	4	6	6	6	6	6	6	6	6	6	6	6	6
T	4	4	4	4	4	4	4	4	4	4	4	6	4	6	6	6
U	31	37	43	55	31	37	43	55	31	37	43	55	31	37	43	55
X	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Z	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Using No. 951 Steel Thimble Roller Chain. Dimensions in Inches

Length of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers				101 to 150 ft. Centers				151 to 200 ft. Centers			
No. of Conveyor	3020	3027	3034	3041	3048	3055	3062	3069	3076	3083	3090	3097	3104	3111	3118	3125
A	36 1/4	42 1/4	48 1/4	60 1/4	38 1/2	44 1/2	50 1/2	62 1/2	38 1/2	44 1/2	50 1/2	64 1/4	38 1/2	46 1/4	52 1/4	64 1/4
B	1 3/16	1 3/16	1 3/16	1 3/16	2 5/8	2 5/8	2 5/8	2 5/8	2 5/8	2 5/8	2 5/8	3 1/8	2 5/8	3 1/8	3 1/8	3 1/8
C	26 3/8	29 3/8	32 3/8	38 3/8	28 1/4	31 1/4	34 1/4	40 1/4	28 1/4	31 1/4	34 1/4	41 7/8	28 1/4	32 7/8	35 7/8	41 7/8
D	25 3/8	28 3/8	31 3/8	37 3/8	28	31	34	40	28	31	34	41 7/8	28	32 7/8	35 7/8	41 7/8
E	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
F	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
G	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8	3 5/8
H	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8	8 7/8
J	36 1/4	42 1/4	48 1/4	60 1/4	35 3/4	41 3/4	47 3/4	59 3/4	35 3/4	41 3/4	47 3/4	61 1/2	35 3/4	43 1/2	49 1/2	61 1/2
K	2 1/4	2 1/4	2 1/4	2 1/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	3 1/8	2 3/4	3 1/8	3 1/8	3 1/8
L	24 3/4	30 3/4	36 3/4	48 3/4	24 3/4	30 3/4	36 3/4	48 3/4	24 3/4	30 3/4	36 3/4	48 3/4	24 3/4	30 3/4	36 3/4	48 3/4
M	11 3/4	11 3/4	11 3/4	11 3/4	12	12	12	12	12	12	12	15	12	15	15	15
N	24	24	24	24	24	24	24	24	24	24	24	30	24	30	30	30
O	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
P	24	30	36	48	24	30	36	48	24	30	36	48	24	30	36	48
R	16 13/16	16 13/16	17 5/16	17 5/16	16 13/16	16 13/16	17 5/16	17 5/16	16 13/16	16 13/16	17 5/16	17 5/16	16 13/16	16 13/16	17 5/16	17 5/16
S	4	4	4	4	6	6	6	6	6	6	6	6	6	6	6	6
T	4	4	4	4	4	4	4	4	4	4	4	6	4	6	6	6
U	31 1/4	37 1/4	43 1/4	55 1/4	31 1/4	37 1/4	43 1/4	55 1/4	31 1/4	37 1/4	43 1/4	55 1/4	31 1/4	37 1/4	43 1/4	55 1/4
X	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Z	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Wood Apron Conveyors

General Dimensions of Jeffrey Standard Wood Apron Conveyors



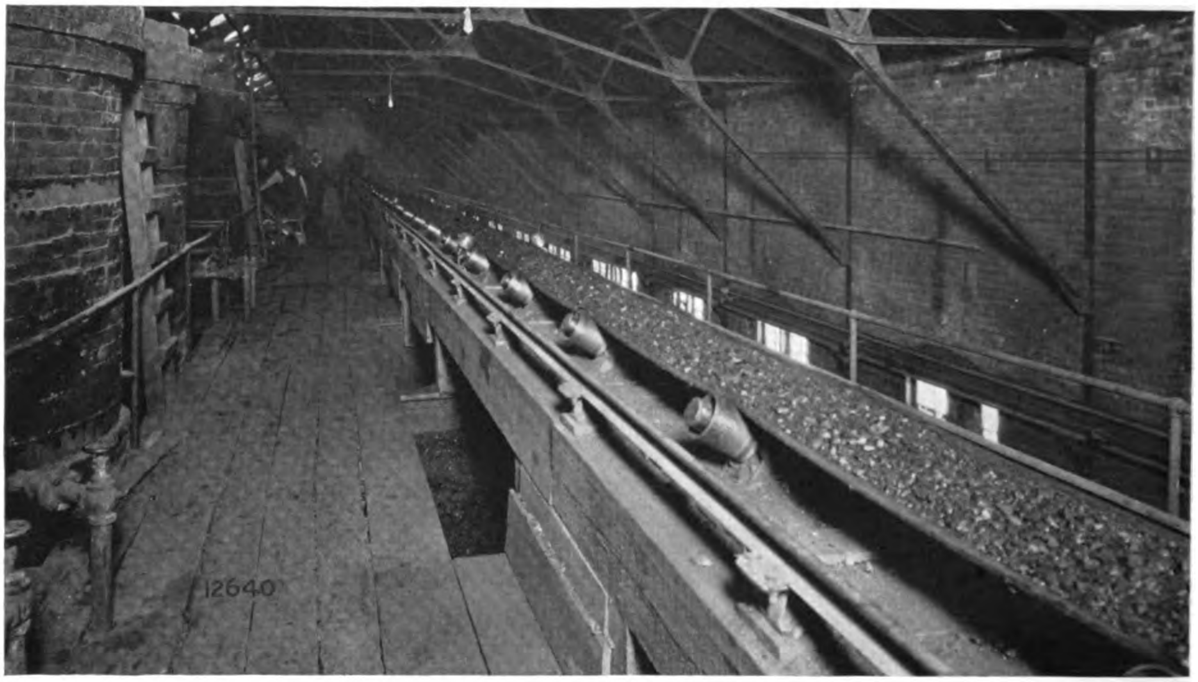
Using No. 276 Steel Thimble Roller Chain. Dimensions in Inches

Length Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers				101 to 150 ft. Centers				151 to 200 ft. Centers			
No. of Conveyor	3021	3028	3035	3042	3049	3056	3063	3070	3077	3084	3091	3098	3105	3112	3119	3126
A	45¾	51¾	57¾	63¾	47½	53½	59½	65½	47½	55¼	61¼	69½	49¼	57½	63½	69½
B	2⅝	2⅝	2⅝	2⅝	3⅛	3⅛	3⅛	3⅛	3⅛	3½	3½	4⅛	3½	4⅛	4⅛	4⅛
C	31⅝	34⅝	37⅝	40⅝	33½	36½	39½	42½	33½	38¾	41¾	47¼	35¾	41¼	44¼	47¼
D	31⅞	34⅞	37⅞	40⅞	33½	36½	39½	42½	33½	38⅜	41⅜	47	35⅜	41	44	47
E	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
F	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
G	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛
H	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼	15¼
J	43	49	55	61	44¾	50¾	56¾	62¾	44¾	50¾	56¾	64½	44¾	52½	58½	64½
K	2¾	2¾	2¾	2¾	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	3⅛	4	3⅛	4	4	4
L	32⅝	38⅝	44⅝	50⅝	32⅝	38⅝	44⅝	50⅝	32⅝	38⅝	44⅝	50⅝	32⅝	38⅝	44⅝	50⅝
M	18	18	18	18	15	15	15	15	15	15	15	22¼	15	22¼	22¼	22¼
N	30	30	30	30	30	30	30	30	30	30	30	36	30	36	36	36
O	30	30	30	30	30	30	30	30	30	30	30	36	30	36	36	36
P	32⅝	38⅝	44⅝	50⅝	32⅝	38⅝	44⅝	50⅝	32⅝	38⅝	44⅝	50⅝	32⅝	38⅝	44⅝	50⅝
R	30⅛	30⅛	30⅛	30⅛	30⅛	30⅛	30⅛	30⅛	30⅛	30⅛	30⅛	30⅛	30⅛	30⅛	30⅛	30⅛
S	6	6	6	6	6	6	6	6	6	8	8	8	8	8	8	8
T	4	4	4	4	6	6	6	6	6	6	6	6	6	6	6	6
U	38½	44½	50½	56½	38½	44½	50½	56½	38½	44½	50½	56½	38½	44½	50½	56½
X	6	6	6	6	6	6	6	6	6	7	7	8	7	8	8	8
Z	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8

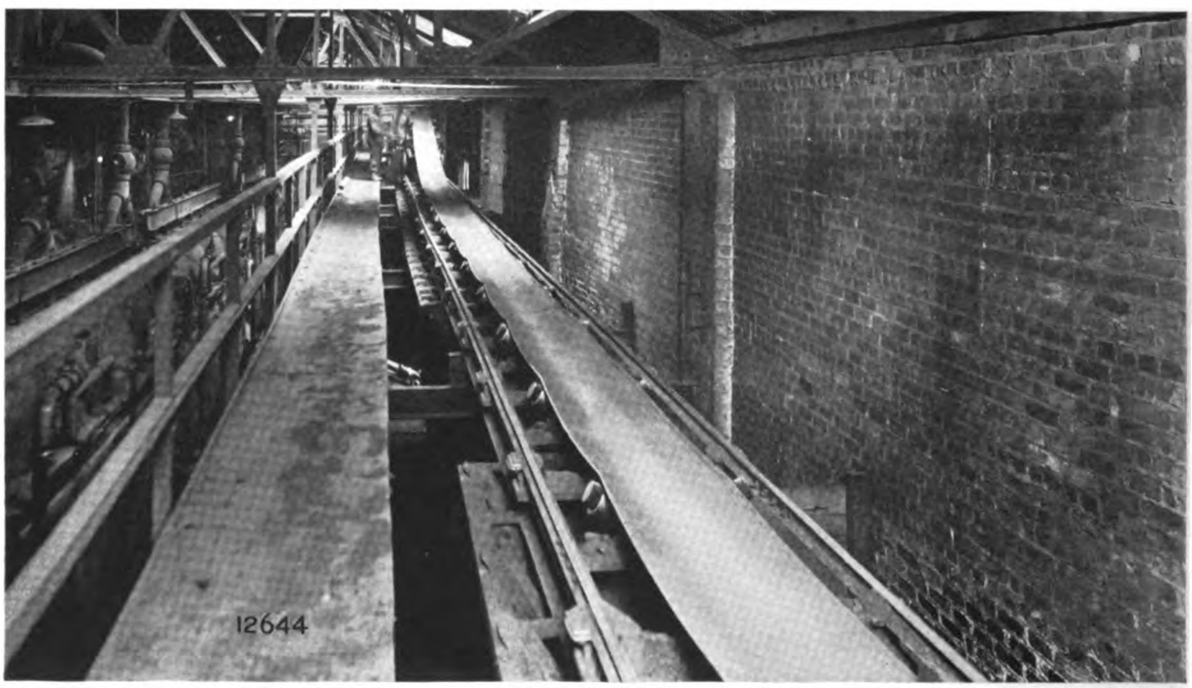
Standard Belt Conveyors

Section 9

Belt Conveyors



Jeffrey Three-Pulley Type Belt Conveyor distributing coal into bunkers by means of Traveling Tripper. Note the large amount of material handled by this Belt.



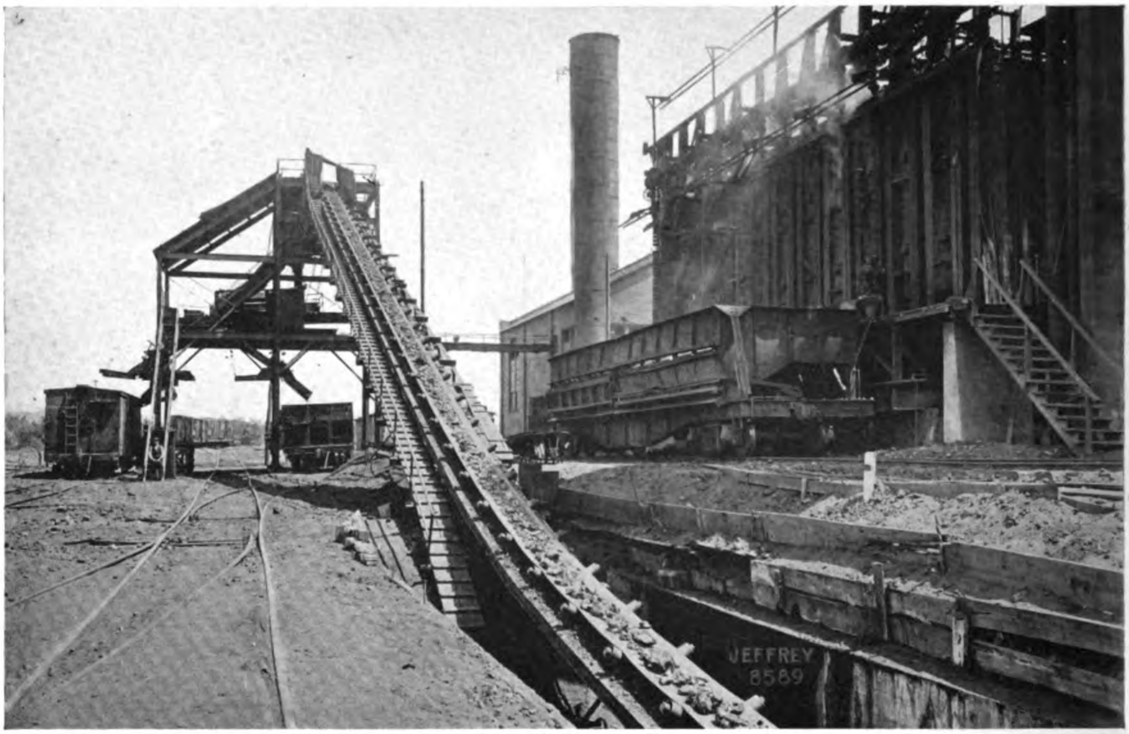
Another Three-Pulley Belt Conveyor handling coal in a large Boiler House.

Belt Conveyors

Jeffrey Automatic Self-Reversing Belt Tripper delivering coal from Belt Conveyor to Bunkers.

In the Metal Mining Industry Jeffrey Belt Conveyors have proven themselves very satisfactory in the handling of ores, an installation of which is shown above.

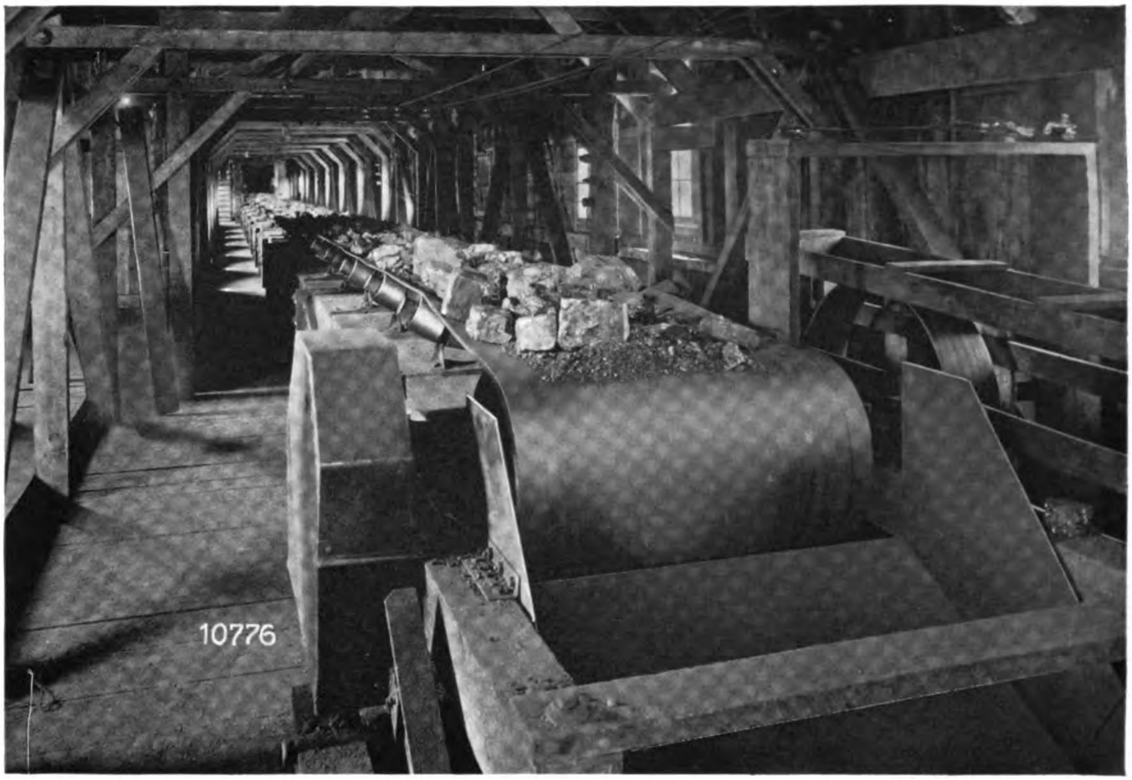
Belt Conveyors



This Belt Conveyor handles coke from a gate controlled dump hopper to a three track loading tipple. Note how one belt serves both the horizontal and the incline when joined by a long sweeping curve.

Here another Jeffrey Belt Conveyor in the above plant handles coal from the Crusher House and up a long incline. Run-of-mine coal is first delivered to the Crusher by a Conveyor from beneath the track hopper located under the coal car as shown.

Belt Conveyors



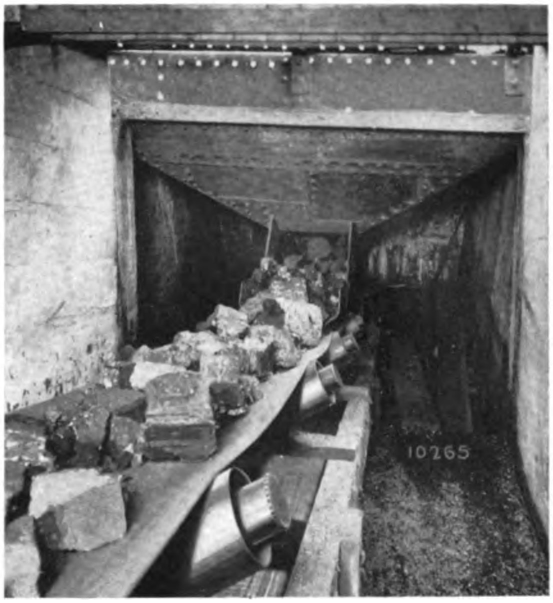
Belt Conveyor with 5-Pulley Idlers handling coal to Tipple Building.

JEFFREY Belt Conveyors have a broad application in the Coal Mining Industry. Where the conditions require that the Tipple Building be located at a distance from the bottom of the slope, or at a point requiring the coal to be delivered at an angle to the Retarding Conveyor, the Belt Conveyor serves as an auxiliary conveyor in handling the coal from the Retarding Conveyor to shaking screens and picking tables.

The Belt Conveyor handles coal with little or no breakage and for this reason, many mine operators prefer it for this service.

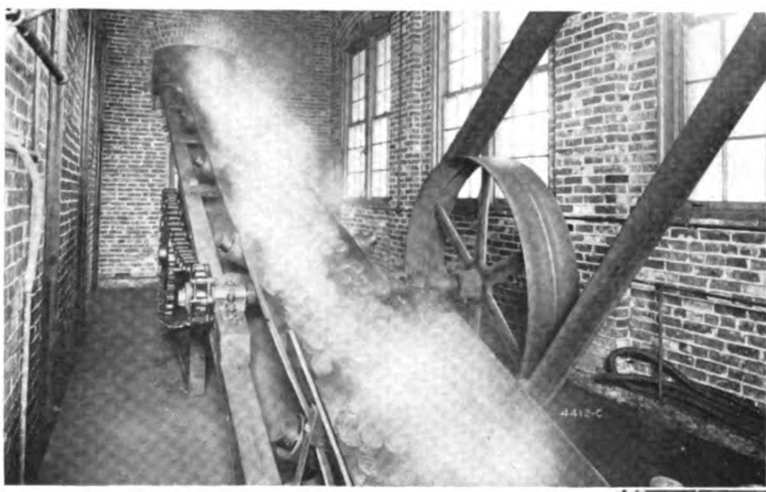
It is well to enclose the conveyors, as shown in the two accompanying illustrations, where possible.

Belt Conveyors

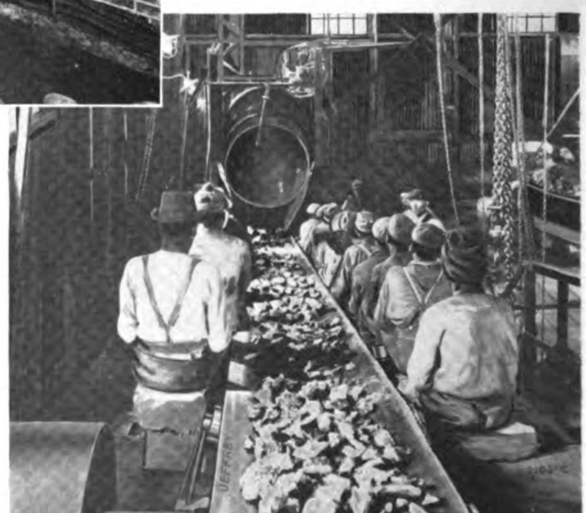


Jeffrey Belt Conveyor handling coal from underneath Track Hopper to storage.

Handling roofing paper sand on a Jeffrey Belt Conveyor in one of the largest roofing products manufacturing plants in the world.



Steaming Hot Coal Briquettes being successfully handled by a Jeffrey Belt Conveyor is shown in illustration at the left.



The right hand view shows a Jeffrey Belt Conveyor serving as a sorting belt in the mining fields of South Africa.

Belt Conveyors

JEFFREY Belt Conveyors are used extensively for the handling of Sand and Gravel. The view above shows the exterior of one of the largest and most modern sand and gravel plants in the country, equipped with Jeffrey Belt Conveyors.

At the left is shown two of the belt conveyors in the above plant handling a continuous stream of material from the Crusher building to washers and screens.

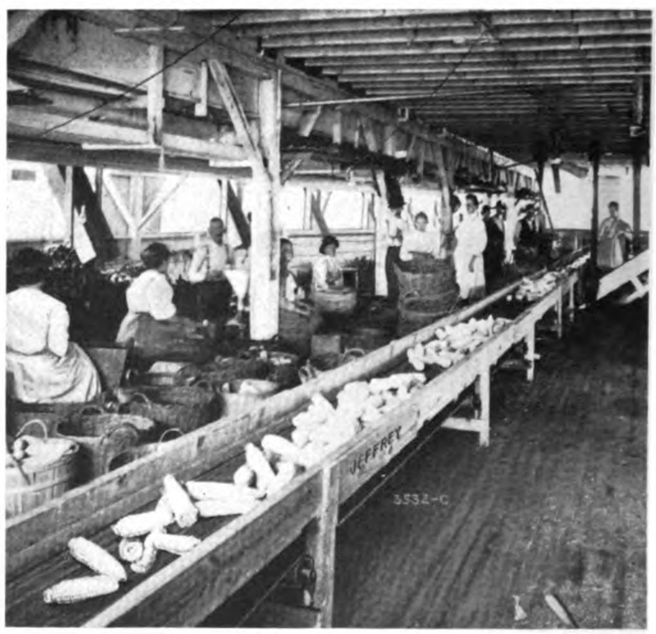
Handling broken limestone from quarry to crusher building with a Jeffrey Belt Conveyor.

Belt Conveyors

A Jeffrey Flat Belt Carrier is one of the quickest means for handling bags, bundles and cartons into and out of storage.

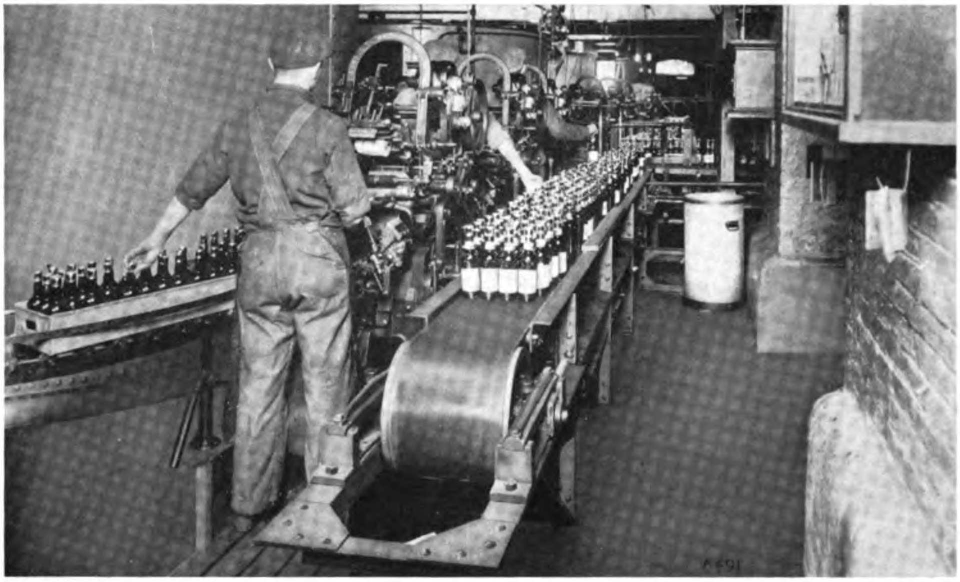
Belt Conveyor for handling Bags and Bales from wagons to storage. By reversing the driving motor, loads may be readily delivered back to wagons.

A Jeffrey Flat Belt Conveyor serving a plant manufacturing photographic supplies, in transferring material from factory to shipping room.

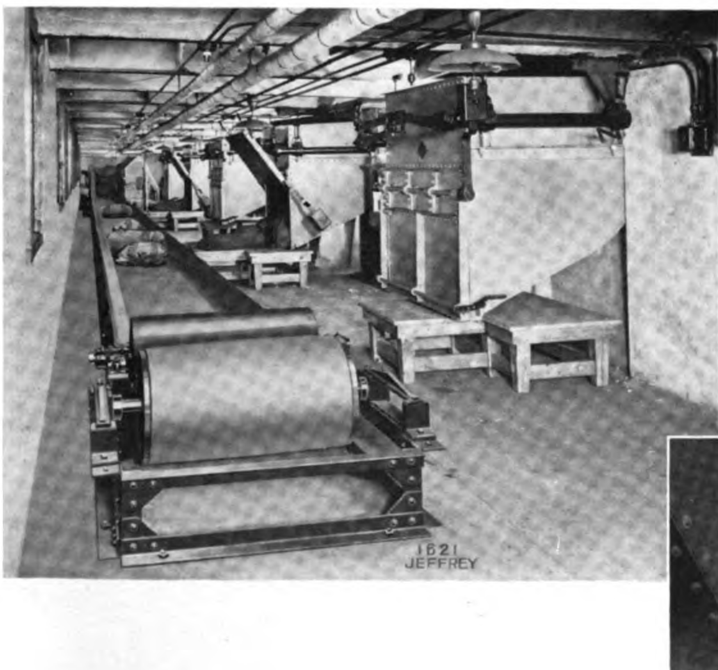


A slowly moving Flat Belt with wood side boards giving excellent service in the Husking Shed of a Corn Cannery. **For other views of Jeffrey Belt Conveyors in Cannery service, see page 135.**

Belt Conveyors



A Jeffrey Flat Belt Conveyor serving many automatic machines. Jeffrey Flat Belt Conveyors are used to advantage both to deliver to and carry from automatic machines in industries such as Bottling Works, Candy Factories, Bakeries, Canneries, etc.

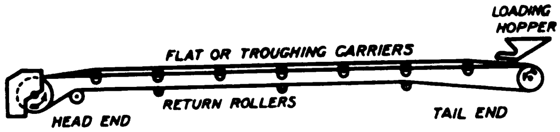


Millions of bags of mail have been safely handled by Jeffrey Flat Belt Conveyors in Post Office Service.

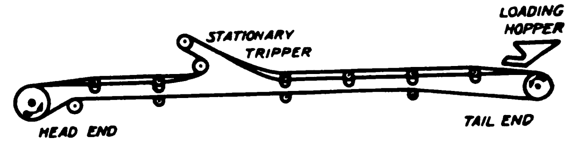
The view at the right shows the mail bags being discharged by chute to the inclined Belt Conveyor.

Belt Conveyors

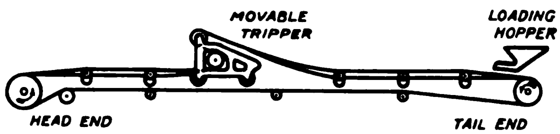
Typical Applications



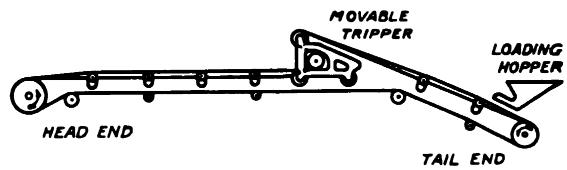
Horizontal Conveyor without Tripper, receiving at one end and discharging at opposite end.



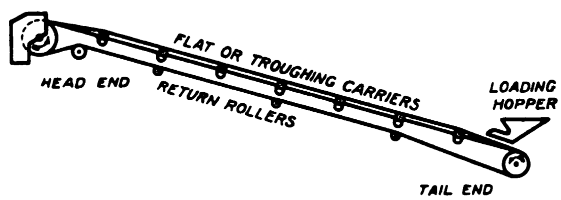
Horizontal Conveyor discharging material at intermediate points by means of fixed tripper.



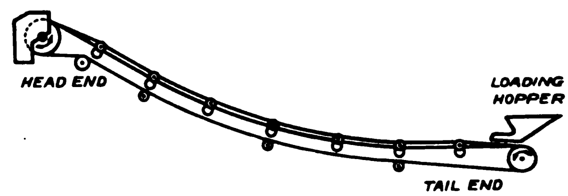
Horizontal Conveyor with a single movable or traveling tripper.



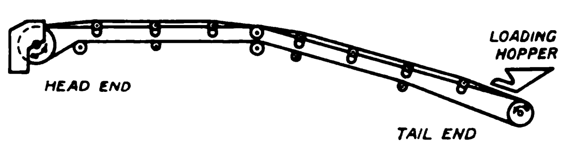
Horizontal Conveyor with movable tripper, loading point inclined, thus permitting the widest range of tripper travel.



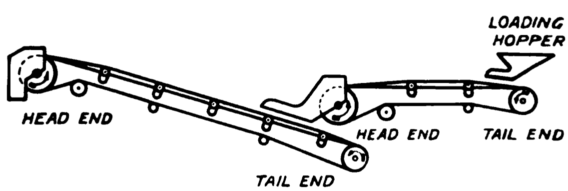
Inclined Conveyor without tripper, receiving at one end and discharging at opposite end.



A Combination Horizontal and Inclined Conveyor, joined by a long sweeping curve, receiving at one end and discharging at the other end.



A Combination Horizontal and Inclined Conveyor. For maximum angle of incline, see page 238.



A Combination Inclined and Horizontal Conveyor, consisting of two separate Conveyors, with discharge onto the inclined conveyor being made by means of a chute.

General Rules and Ready References for Belt Conveyors

A Handy Guide for the Busy Engineer

THE following general rules, which embody the best in Belt Conveyor practice, have been collected out of the various pages of this section, for the convenience of the engineer who has not the time to go further into details, as given on the following pages.

Width of Belts: For Loose Materials use at least 4 times the Uniform Size of material handled plus 6 inches or 4 times the Average Sized Pieces plus 6 inches where such pieces are about 70% to 80% of the whole—with the width of the belt in no case to be less than twice the Largest Pieces to be handled plus 8 inches, where such pieces do not exceed 10% in uniform distribution of all the material carried.

Capacity in Tons Per Hour of materials weighing 50 pounds per cubic foot and carried over Three or Five Pulley Troughing Carriers is approximately 8% of the square of the number of inches in the width of the belt, for each 100 feet of belt speed per minute.

Maximum Speeds of Belt for loose materials equal approximately an initial speed of 250 feet per minute for a ten inch belt, plus 10 feet per minute for each additional inch of belt width. Slow speed 150 feet per minute. See page 236. Speeds of Package Conveyors 75 to 125 ft. per min.; of Picking or Sorting Belts 40 to 50 ft. per min.

Horse Power Required: Approximately 2% of the number of tons per hour carried for each 100 feet of horizontal belt length and 1% additional for each 10 feet rise of incline. Increase this Horse Power at the belt 5% for each driving reduction thru chain, belting or cut gears and 10% for each reduction through rough gears to obtain the final Horse Power at Line Shaft, Motor or Engine. See page 237.

Maximum Inclines: Belts are ordinarily installed to carry horizontally although most materials may be readily carried in a troughed belt at 18 degrees—20 degrees to the horizontal, many others as high as 21 degrees—23 degrees and some few at 25 degrees. Recommendations covering angles over 20 degrees will be made upon statement of material to be handled, moisture in same, and nature of installation. See page 238.

Belt Values: Proper Flexibility in Belts for Troughing Carriers is one ply for each 4 to 5 inches of belt width, with 12 inch, 3 ply as a minimum and 48 inch, 8 ply as a maximum in ordinary service. See page 247.

Ultimate Strength of the average Rubber Belt is 360 pounds per inch width of each ply, with a Safe Working Tension of 30 pounds per inch width of each ply. Factor of Safety 12. The pull required to move a belt over its carriers upon the level is approximately 20% of weight of belt plus 10% of weight of load upon the belt.

Terminal Pulleys: The diameter of drive pulleys in ordinary good practice is 5 times the number of belt plies with the diameter of all other pulleys taking 180 degrees wrap 4 times the number of plies.

Spacing of Idlers: For the proper spacing of Troughing, Flat, Return, and Guide Idlers, see page 239.

Loaders: For suggestions on the best methods of loading, see page 240.

Unloaders: Much of the life of a belt conveyor depends upon its Unloaders, see pages 249 and 250.

Cleaning Brushes: Cleaning brush speeds are ordinarily 800 to 1000 feet per minute at the surface for dry dusty materials; 1000 to 1200 for damp materials; 1200 to 1500 for wet, sticky materials.

Index and Capacity for Standard Belt Conveyors

Weight of Material to be Handled	Average Size Pieces	Maximum Size Pieces	Capacity per Hour				Width of Belt	Speed in Feet per Minute	0 to 100 Feet Centers			101 to 200 Feet Centers			201 to 300 Feet Centers			301 to 400 Feet Centers			401 to 500 Feet Centers			501 to 600 Feet Centers			Carriers
			Tons	Cu. Ft.	Cu. Yds.	Bushels			Conv. No.	Page No. Spec	Page No. Dim.	Conv. No.	Page No. Spec.	Page No. Dim.	Conv. No.	Page No. Spec.	Page No. Dim.	Conv. No.	Page No. Spec.	Page No. Dim.	Conv. No.	Page No. Spec	Page No. Dim.	Conv. No.	Page No. Spec.	Page No. Dim.	
50 Lb.	2	3	36	1456	54	1174	14	225	**301**	254	264	**313**	255	264	**325**	256	264	**337**	257	265	**349**	258	265	**361**	259	265	3 Pulley
	2½	4	48	1915	71	1539	16	225	**302**	254	264	**314**	255	264	**326**	256	264	**338**	257	265	**350**	258	265	**362**	259	265	
	3	5	70	2800	104	2250	18	260	**303**	254	264	**315**	255	264	**327**	256	264	**339**	257	265	**351**	258	265	**363**	259	265	
	3½	6	86	3458	128	2779	20	260	**304**	254	264	**316**	255	264	**328**	256	264	**340**	257	265	**352**	258	265	**364**	259	265	
	4½	8	143	5746	213	4617	24	300	**306**	254	264	**318**	255	264	**330**	256	264	**342**	257	265	**354**	258	265	**366**	259	265	5 Pulley
	6	11	254	10175	377	8175	30	340	**309**	254	264	**321**	255	264	**333**	256	264	**345**	257	265	**357**	258	265	**369**	259	265	
	7½	14	404	16160	599	12985	36	375	**312**	254	264	**324**	255	264	**336**	256	264	**348**	257	265	**360**	258	265	**372**	259	265	
	9	17	601	24048	892	19323	42	410	**421**	254	264	**426**	255	264	**428**	256	264	**430**	257	265	**432**	258	265	**434**	259	265	
	10½	20	862	34474	1278	27702	48	450	**422**	254	264	**427**	255	264	**429**	256	264	**431**	257	265	**433**	258	265	**435**	259	265	
100 Lb.	2	3	72	1456	54	1174	14	225	**373**	260	266	**385**	261	266	**397**	262	267	**409**	263	267							3 Pulley
	2½	4	96	1915	71	1539	16	225	**374**	260	266	**386**	261	266	**398**	262	267	**410**	263	267							
	3	5	140	2800	104	2250	18	260	**375**	260	266	**387**	261	266	**399**	262	267	**411**	263	267							
	3½	6	172	3458	128	2779	20	260	**376**	260	266	**388**	261	266	**400**	262	267	**412**	263	267							
	4½	8	286	5746	213	4617	24	300	**378**	260	266	**390**	261	266	**402**	262	267	**414**	263	267							5 Pulley
	6	11	508	10175	377	8175	30	340	**381**	260	266	**393**	261	266	**405**	262	267	**417**	263	267							
	7½	14	808	16160	599	12985	36	375	**384**	260	266	**396**	261	266	**408**	262	267	**420**	263	267							
	9	17	1202	24048	892	19323	42	410	**436**	260	266	**441**	261	266	**443**	262	267	**445**	263	267							
	10½	20	1724	34474	1278	27702	48	450	**437**	260	266	**442**	261	266	**444**	262	267	**446**	263	267							

Proper Width of Belt for Size of Material

WIDTH of Belt for Size of Material is to be determined from the following table whether the capacities be large or small. The size of material listed for the various belts may be any size smaller but not larger than the average cube sizes given in the table.

Belt Width		14″	16″	18″	20″	24″	30″	36″	42″	48″
Size of Material	Uniform Size or 70% to 80% of Unsized material with	2″	2½″	3″	3½″	4½″	6″	7½″	9″	10½″
	Max. Unsized pieces not over 10% of all.	3″	4″	5″	6″	8″	11″	14″	17″	20″

Width of Belt for a given capacity should be determined by using 95% of the capacities given in Tables on following pages but in no case should it be less than the minimum width for the size of material handled as given above.

When handling packages use a width of belt to suit the weight of the load but never less than 4″ wider than the greatest outside diagonal dimension of the largest package measured across the belt, or 4″ wider than the largest package in the normal position in which it is sure to be carried. See page 235.

Capacities given in the Tables on the pages following are based upon a continuous uniform flow of material to the conveyor throughout the unit of time specified, and in choosing a width and speed of belt, care must be taken that the quantity of material to be carried can be fed to the belt under the operating conditions imposed.

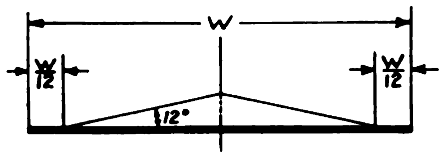
CAPACITIES of Picking or Sorting Belts upon Three Pulley Troughing Carriers are limited by:—size of material handled, thickness of load which will readily expose all material for inspection, percentage of refuse to be removed, and the number and speed of pickers. A good average for bituminous coal is 10 to 15 tons per hour per foot width of belt, but in no case where effective picking is required should the belt width exceed 48".

Capacities of Package Conveyors upon Flat Belt Carriers are limited by the size and weight of packages and the number of pieces which can be easily handled at the loading and discharge points.

Capacities of Flat Belt Conveyors for Loose Bulk Materials

Width of Belt Inches	Cross Section of Load Sq. Ft.	Cu. Ft.* Per. Hr. At 100 F. P. M.	Cu. Yds* Per Hr. At 100 F. P. M.	Bushels* Per. Hr. at 100 F. P. M.	Tons per Hour at Speed of 100 Ft. per Min. — Weight of material in Lbs. per Cubic Foot: 25	50	75	100	125
14	.049	294	10.9	236	3.7	7.4	11.1	14.8	18.5
16	.064	384	14.2	309	4.8	9.6	14.4	19.2	24.0
18	.081	486	18.0	391	6.1	12.2	18.3	24.4	30.5
20	.100	600	22.2	482	7.5	15.0	22.5	30.0	37.5
24	.144	864	32.0	694	10.8	21.6	32.4	43.2	54.0
30	.225	1350	50.0	1085	16.9	33.8	50.7	67.6	84.5
36	.324	1944	72.0	1562	24.3	48.6	72.9	97.2	121.5
42	.441	2646	98.0	2126	33.1	66.2	99.3	132.4	165.5
48	.576	3456	128.0	2777	43.2	86.4	129.6	172.8	216.0

*Capacities for Packages, Boxes, Bundles, etc., given in table below. F. P. M. = Feet per Minute.



Outline of Belt and Bulk Loading on Flat Carriers

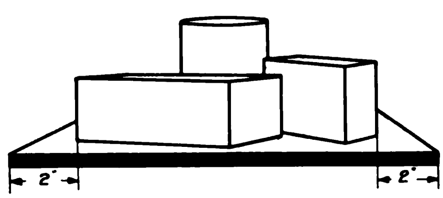
Above Table Based on Cross Section Shown

Formula—Cu. Ft. per Hr. at speed of 100 Ft. per Min. = $1.5\ W^2$.

Where W. = Width of Belt in Inches.

Capacities of Flat Belt Conveyors for Packages, Boxes, Bundles, etc. using Swivel Bearing Carriers, page 246.

Width of Belt Inches	2" Diameter Rollers: Average Uniform Load in Lbs. per Sq. Ft. of Belt	2" Diameter Rollers: Maximum Single Load in Lbs.	2" Diameter Rollers: Standard Roller Spacing in Feet	4" Diameter Rollers: Average Uniform Load in Lbs. per Sq. Ft. of Belt	4" Diameter Rollers: Maximum Single Loading Lbs.	4" Diameter Rollers: Standard Roller Spacing in Feet
14	20	60	4.5			
16	25	75	4.5			
18	25	75	4.0	30	100	4.0
20	25	75	4.0	30	100	4.0
24	25	75	3.5	30	100	3.5
30	15	50	3.5	25	100*	3.5
36				25	75*	3.0
42				20	75*	3.0
48				15	65*	3.0



Outline of Belt and Package Loading on Flat Belts

*The Maximum Single Loads given in Table are based upon the impact and deflection at the center of the rollers from filled wood boxes as ordinarily placed upon the conveyor in miscellaneous loading. When such Maximum Single Loads do not strike the belt upon an edge or corner, but are laid flat (not dropped) upon the belt their weight may be gradually increased to the point of being about doubled on the 4" rollers for the 30" and 36" belts and multiplied by 3 for the 42" and 48" sizes.

Belt Conveyors

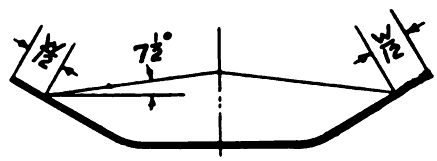
Capacities of Belt Conveyors using Three Pulley Carriers, page 241

Width of Belt Inches	Cross Section of Load in sq. ft.	Cu. Ft. per Hr. at 100 F. P. M.	Cu. Yds. per Hr. at 100 F. P. M.	Bushels per Hr. at 100 F. P. M.	Tons per Hour at 100 Feet per Min. Weight of material in Lbs. per Cubic Foot 25	50	75	100	125
14	.114	686	25.4	551	8.6	17.2	25.8	34.4	**43.0**
16	.149	896	33.2	720	11.2	22.4	33.6	44.8	**56.0**
18	.189	1134	42.0	911	14.2	28.4	42.6	56.8	**71.0**
20	.233	1400	51.9	1125	17.5	35.0	52.5	70.0	**87.5**
†42	1.029	6174	229.0	4961	77.2	154.4	231.6	308.8	**386.0**
†48	1.344	8064	299.0	6480	100.8	201.6	302.4	403.2	**504.0**

†For Picking Table Service only. F. P. M. = Feet Per Minute.

Above Table Based on Cross Section shown

Formula—Area of Section in Square Feet = $.000583W^2$.
Cubic Feet per Hour at 100 feet per minute speed of Conveyor = $3.5\ W^2$.
Where W = Width of Belt in inches.

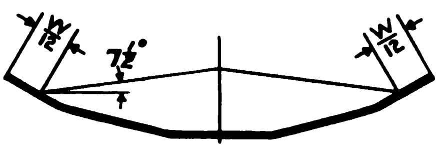


Outline of Belt and Bulk Loading for Three Pulley Carrier

Capacities of Belt Conveyors using Five Pulley Carriers, page 242

Width of Belt Inches	Cross Section of Load in Sq. Ft.	Cu. Ft. per Hr. at 100 F. P. M.	Cu. Yds. per Hr. at 100 F. P. M.	Bushels per Hr. at 100 F. P. M.	Tons Per Hour at 100 Feet per Minute Weight of Material in Lbs. per Cubic Foot 25	50	75	100	125
24	.336	2016	74.7	1620	25.2	50.4	75.6	100.8	**126.0**
30	.525	3150	116.7	2531	39.4	78.8	118.2	157.6	**197.0**
36	.756	4536	168.0	3645	56.7	113.4	170.1	226.8	**283.5**
42	1.029	6174	229.0	4961	77.2	154.4	231.6	308.8	**386.0**
48	1.344	8064	299.0	6480	100.8	201.6	302.4	403.2	**504.0**

F. P. M. = Feet per Minute.



Outline of Belt and Bulk Loading for Five Pulley Carrier

Above Table Based on Cross Section Shown

Formula—Area of Section in Square Feet = $.000583\ W^2$.
Cubic Feet per Hour at 100 feet per minute speed of Conveyor = $3.5\ W^2$.
Where W = Width of Belt in inches.

Determining Proper Speed for Belt Conveyors

SPEEDS of Belt Conveyors depend upon the capacity desired;—the material being handled;—the amount of breakage allowable in discharging;—and the effect on the discharge chute. The speed should be as low as possible to safely carry the load with the belt kept full, but not less than 150 feet per minute when handling materials in bulk, except when used as a Picking or Sorting Belt.

Maximum Advisable Belt Speeds in feet per minute

Belt Width	14″	16″	18″	20″	24″	30″	36″	42″	48″
Maximum Speed	300	300	350	350	400	450	500	550	600

When Maximum Advisable Speeds are exceeded the load on the belt ordinarily has a tendency to thin out so that the capacity is not directly proportional to the speed.

Under 150 feet per minute speed the cost of the Belt Conveyor per ton of bulk materials handled even with a minimum ply of belt, commences to be uneconomical as compared with other types of conveyors equally suited to the operating conditions.

Speeds of Picking or Sorting Belts should be 40 to 50 feet per minute, but may be higher if the material is coarse, comparatively clean and the refuse easily discernible.

Speeds for Package Conveyors should be 75 to 125 feet per minute consistent with easy and assured loading and unloading facilities.

How to Figure Horsepower of a Belt Conveyor

AN exact formula embodying all the possible variables for arriving at the Horse Power of a conveyor is quite complex. A composite of accepted practice however has reduced it to the following:

For Horizontal Conveyors:—$H.P. = \dfrac{(CS+2.33\ T)L}{33000}$ at Drive Shaft.

For Inclined Conveyors:—$H.P. = \dfrac{(CS+2.33\ T)L}{33000} + \dfrac{TH}{990}$ at Drive Shaft.

C = Power Constant varying with the width of belt, from Table below.
S = Speed of Belt in feet per minute, page 236.
T = Load in Tons per hour. Use Capacity of Belts pages 234 to 236 at the speed chosen, unless operating conditions are such as to guarantee by a uniform rate of feed throughout the hour, that some smaller capacity will not be exceeded.
L = Length of Conveyor between centers in feet.
H = Vertical Height in feet that material is lifted, page 238.

Increase Horse Power thus obtained, 20% for conveyors under 50 feet centers, 10% for 50 to 100 feet, and 5% for 100 to 150 feet, due to the larger percentage of the total horse-power absorbed by the terminals of short conveyors as compared with those of longer centers. Now add for each fixed or movable tripper the Horse Power given in the following table. Increase this final Horse Power at the Drive or Head Shaft 5% for each speed reduction to line shaft, motor or engine, thru chains, belting or cut gears and 10% for each reduction through rough cast gears.

Width of Belt	C Power Constant	H. P. For Each Tripper	Width of Belt	C Power Constant	H. P. For Each Tripper
14"	.75	1	30"	2.45	2
16"	1.05	1	36"	3.55	2
18"	1.35	1½	42"	4.15	
20"	1.70	1½	48"	4.75	
24"	2.00	1½			

Tonnage Life of Belts satisfactory when Conveyors are Properly Installed

With one properly designed loading point and ⅛" good grade of rubber cover, a belt on a conveyor 100 feet long carrying coal or similar material, has been found in many cases to handle during its life, a tonnage equal to 500 times the square of the width of the belt in inches; two hundred feet long, twice as much, etc. This "Tonnage" is not to be taken as a limit to the performance of a good belt nor as a guarantee of performance in any case, but simply as a composite of what has been considered satisfactory service in a large number of cases.

Maximum Length of a Belt Conveyor is limited to the safe working tension of the belt when using the maximum number of plies permissible for proper flexibility. Ordinarily this length is about 450 to 500 feet under full loading. See Standard Belt Conveyors, pages 254 to 263.

Stretch. A good belt with a breaking strength of about 360 pounds per ply per inch of width is usually granted an allowance of 1% of its length for tightening including the permissible initial stretch incident to properly conforming to troughing carriers, driving pulleys and the load upon the belt.

Belt Conveyors

The Larger the Curve from the Horizontal to the Incline the Better

IT is often desirable to install a belt conveyor partly on the horizontal and partly on an incline, with the change from the horizontal being made by an upward curve. Under such conditions it is necessary to know the smallest radius of curvature at which the belt will lie down upon the carriers when operating under conditions which give the greatest tendency to leave the carriers.

It is evident that such a tendency of the belt to rise from the carriers, as shown by dotted lines in the drawing below, will be greatest when the pull in the belt is greatest under the conditions of being completely loaded from "B" to "C" and empty on the curved portion from "C" to "D" up to "A." Under such conditions a pull equal to the strain at "C" will be in the empty curved portion of the belt along its entire length up to the driving pulley "A."

Now, if a rope or a belt "F, D, C, E, G" be freely suspended from the points "F" and "G" it will assume a curve known as a catenary, and the flatter the curve the greater will be the strain induced along the rope or belt by reason of its own weight independent of any material lying upon the same. It therefore follows that if an empty belt is so suspended as to assume the outline of that portion of a catenary in which the greatest induced strain along the curve from "D" to "C" is equal to the pulling strain at "C" then we will have obtained the smallest curve possible to meet the conditions of our problem.

This curve of the catenary, while mathematically quite complex, is closely approximated by a similar curve known as the parabola which may be quite easily plotted or laid out, since every point along the parabola is represented by the intersection of varying horizontal distances "X" measured in feet from the line "YY" with corresponding varying vertical distance "Y" measured from the line "XX" bearing the simple relation to each other of $X^2 = \frac{2T}{W} Y$.

Where W equals the weight in pounds per lineal foot of the empty belt and T equals the "horse power pull" or friction in pounds of the belt at "C". See pages 237 and 247.

A Radius of Curvature "K" may be taken in practice to approximate that portion "CD" of the parabolic curve as plotted from the above formula. This radius is ordinarily about 300 feet, with a smaller radius where a gradually increasing load becomes a uniform continuous load. For intermittent but full loading, a radius varying from 500 to 1000 feet may be required.

The Angle of Incline "M" should in all cases be about 10 or more degrees less than the angle of repose of the material on the belt. Therefore for the materials ordinarily handled on a belt the maximum incline may be taken at about 20 degrees. Many materials may be carried as high as 21°—23° and some few at 25°. Large lumps have a tendency to roll back upon the belt unless they are well intermixed with smaller pieces. Also an intermittent flow of most materials, near 20 degrees has a tendency to cause slipping and often the avalanching of all the material on the incline. Care should therefore be taken to insure a continuous stream, either large or small, of uniform sized or of well intermixed unsized materials.

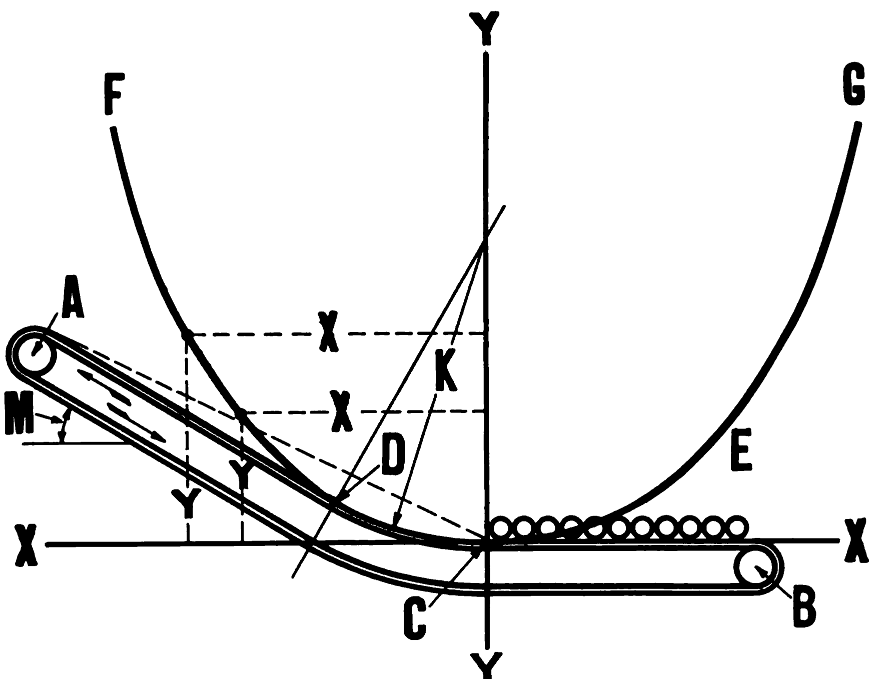


Diagram of Curve connecting the Horizontal and Incline of a Belt Conveyor

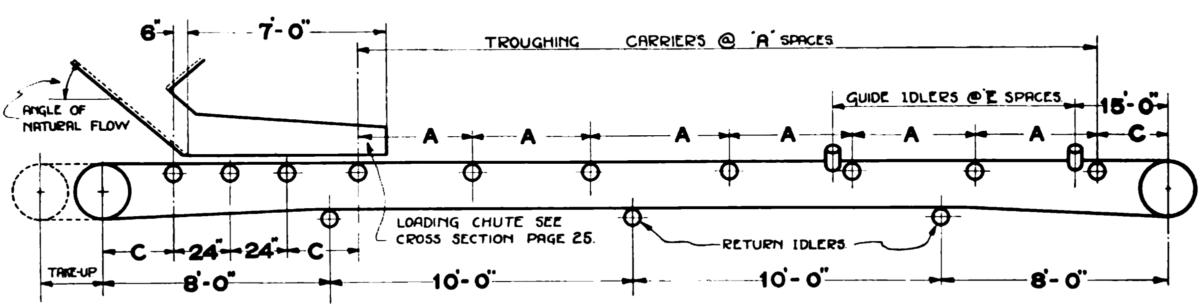
Fitting the Belt with Proper Size Terminal Pulleys

IT has been found to be good practice to make the diameter of all drive pulleys 5 times the number of plies of the belt and all other pulleys, taking a full 180 degree wrap, 4 times the number of plies. Bend or Snub Pulleys for 3 or 4 ply belt ordinarily should be 8 inches diameter; for 5 ply belt, 12 inches diameter; and for 6 ply belt and over, 16 inches diameter.

Always make the face of pulleys 2″ wider than the belt.

Rubber Lagged Pulleys increase the tractive effort of the Plain Driving Pulley of a belt from 10 to 20% where contact between the pulley and the belt is clean or where the dust from materials handled is damp. However in dry and very dusty conditions of coal, clays and similar smooth materials the Lagged Pulley usually decreases the tractive effort at least 10 to 20%. When greater tractive effort is required it is ordinarily preferable to use a Snub Pulley as noted below and then, if need be, lag the drive pulley for yet greater tractive effort. However the question of snubbing or lagging seldom arises except in the case of very long conveyors exceeding the maximum lengths listed for "Standard Belt Conveyors", pages 254 to 263.

Spacing of Troughing Carriers and Guide Idlers



Width of Belt Inches	A—For Materials		Sorting Belt only	C	E†
	Not over 100 lbs. Cu. Ft.	Over 100 lbs. Cu. Ft.			
14–16	5′-0″	4′-6″	....	2′-6″	30′-0″
18–20	4′-6″	4′-0″	....	3′-0″	45′-0″
24–30	4′-0″	3′-6″	3′-6″	3′-0″	45′-0″
36–42	3′-6″	3′-0″	3′-0″	3′-0″	45′-0″
48	3′-6″	3′-0″	2′-6″	3′-0″	....

On Picking or Sorting Conveyors the Carriers should be spaced:—3′-6″ for 24″ to 30″ Belts. 3′-0″ for 36″ to 42″ Belts. 2′-6″ for 48″ Belts.

The End Troughing Carriers should be placed close to the head and foot pulleys, in order to prevent the material carried from spreading to the edges of the belt either before it reaches the first troughing carrier or before it passes over the head pulley.

At a loading chute, space the carriers as shown, with the first carrier 6″ back of the loading point, but never directly under the loading point where the material first touches the belt, as this somewhat increases the wear of the belt, and often causes that carrier to be broken.

Return Idlers should be located as close as possible after all cross supports in order to protect the return belt from injury. In no case should a Return Idler be placed close enough to the drive pulley to act as a snub.

†It has been found to be good practice to use guide pulleys as a safe-guard to maintain a proper alignment of narrow belts. Guides are very seldom, if ever, required for rubber belts 24″ and wider or for any width of belts having a tripper. However they are often necessary with all widths of canvas belts except where trippers are used, on account of the uneven stretch of the belt fabric. Note that the Guide Idlers are always placed before a troughing carrier.

Belt Conveyors

Maintaining a Steady Flow of Material to the Belt Loading Chute

MECHANICAL Loaders are often used to maintain a steady flow of material to the standard form of loading chute described below. Of the various types of loaders, we have found the use of the short screw conveyor for smaller materials to be the next step in simplicity following a hand controlled valve in the standard loading chute, while the continuous steel apron and reciprocating plate loaders have been found to be best suited to medium and larger size materials.

Loaders for Fine and Medium Size Materials

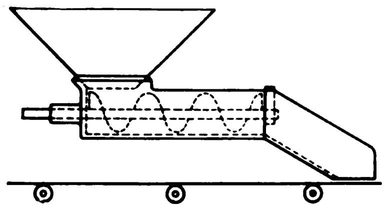


Figure 1

Fig. 1—Screw Conveyor Loader—Uniform Flow—Fast or Slow Speed.

Fig. 2—Shaking Plate Loader—Approximate Uniform Flow—Short Strokes—Medium or High Speed.

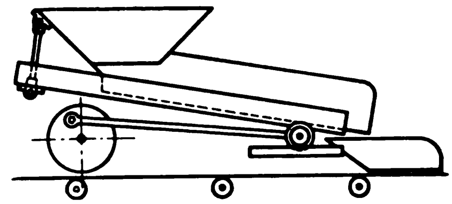


Figure 2

Loaders for Medium and Large Size Materials

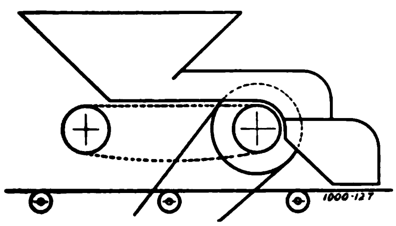


Figure 3

Fig. 3—Steel Apron Loader—Uniform Flow—Medium or Slow Speed.

Fig. 4—Reciprocating Plate Loader—Intermittent but Uniform Flow—Medium Strokes—Slow Speed.

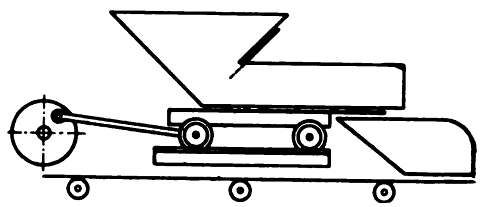


Figure 4

Lengthening Life of Belt by Loading Properly

LOADING is a very important feature to which due consideration should be given, as both the life of the belt and the capacity of the conveyor depend upon the way in which the conveyor is loaded. Heavy materials such as coal should never be allowed to strike the belt vertically. They should be baffled to at least a gentle drop onto the belt. For ideal loading the materials conveyed should be delivered to the center of the belt, in the direction of the belt travel and at as near the speed of the belt as possible thereby eliminating the wear of the belt due to slippage of material.

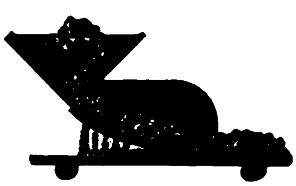


Figure 5—Protecting the Belt with Screenings

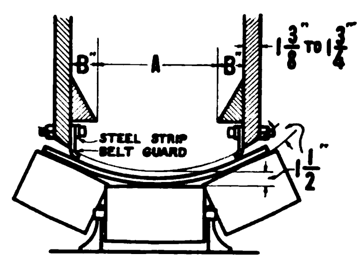


Fig. 6—Section thru Loading Skirt Boards

In designing a loading chute to approximate a speed of flow equal to the speed of the belt, provision should be made for as great an angle of the chute to the belt as conditions will permit, thereby making it readily possible to gradually place the chute at lesser angles to the belt until the proper speed of flow is obtained.

For heavy material intermixed with fines it is good practice to place a screen in the bottom of the loading chute, thereby allowing the fines to flow thru the screen to the belt and thus form a cushion for the large lumps, as shown in Fig. 5.

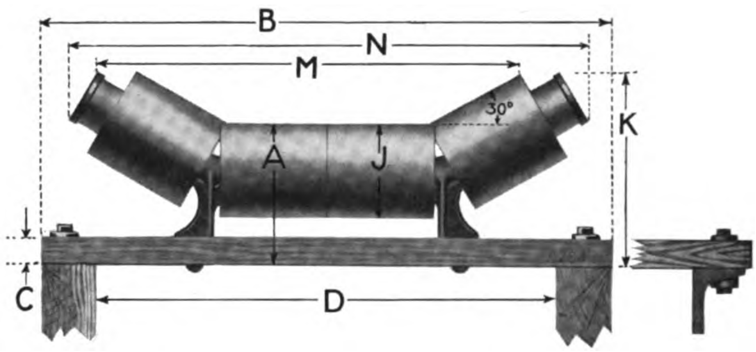
Skirt Boards. Materials conveyed should be at rest on the belt in from 6 to 8 feet from the loading point, therefore, skirt boards from 6" to 12" high and from 5 to 7 feet long are ordinarily required. For conveyors with the loading point at an angle add guard strips of rubber belting to the skirt boards, shown in Cross Section, Fig. 6. See also side elevation of skirt boards, page 239.

Where W = Width of Belt in inches.
A = ⅝W. for Belts 14 and 16 inches wide and B = 1⅜"
A = ⅔W. less 1 inch for Belts 18 and 20 inches wide and B = 1¾".
A = ⅔W. less 2 inches for Belts 24 inches and wider and B = 1¾".

Three Pulley Troughing Belt Carriers

THE diameter and troughing angle of Jeffrey Belt Carriers are the result of extensive engineering experience in the successful handling of various classes of materials. Exceedingly strong, of medium weight and well machined. The feature of overlapping the pulleys in this type of carrier is a big element in preventing undue creasing of the belt in the trough. Grease is supplied to the middle pulley, through the passage-way from the lower ends of the out-side pulleys to both ends of the middle pulley, as illustrated.

IMPORTANT:—Completely fill the grease passages when first installed with two whole cups of grease; then an occasional turn of each cup will assure good lubrication. To insure the belt running true and central, it should always approach the carrier from the side upon which the horizontal pulley is placed.



Three Pulley Carrier can be Mounted upon Wood or Steel Stringers

Dimensions of Three Pulley Troughing Idlers

Width* of Belt Inches	List Price	Approx. Weight with Boards Lbs.	Dimensions—Inches							
			A	B	C	D	J	K	M	N
14	See	**31**	**7⅜**	**24**	**1⅛**	**20**	**5**	**9⅝**	**14**	**20½**
16	Price	**33**	**7⅜**	**26**	**1⅛**	**22**	**5**	**10⅛**	**15¾**	**22¼**
18	List	**44**	**8⅜**	**30**	**1⅛**	**24**	**6**	**11⅝**	**17½**	**26¼**
20	Bulletin	**49**	**8⅜**	**32**	**1⅛**	**26**	**6**	**11⅝**	**19¾**	**28½**
For Picking Belt Service Only										
24	See	55	8⅞	36	1⅝	30	6	12⅛	24¼	33
30	Price	65	8⅞	44	1⅝	38	6	12⅝	30½	39¼
36	List	76	8⅞	50	1⅝	44	6	12⅝	35¾	44½
42	Bulletin	90	8⅞	56	1⅝	50	6	12⅝	42½	51¼
48		99	8⅞	62	1⅝	56	6	12⅝	48½	57¼

* All Carriers in Bold Face Type are CARRIED IN STOCK in quantities to meet all ordinary demands.

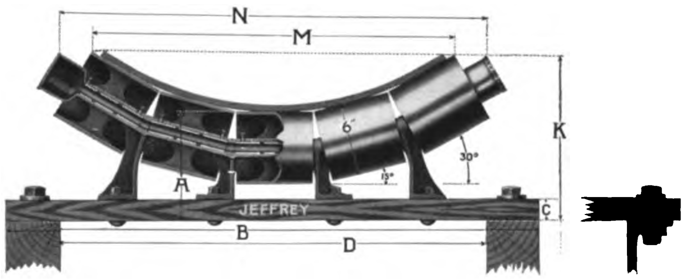
For general service above 20″ belts use Five Pulley Carriers, page 242.

Belt Conveyors

Five-Pulley Troughing Belt Carriers

"The Ideal Carrier"

THE Jeffrey Five Pulley Carrier embodies all the high qualities of the Standard Three Pulley Carrier, and in addition permits of a closer conformity to the natural troughing effect of the belt, for the carrying of coal, sand, crushed stone, and other heavy bulk materials such as ore, rock, earth, etc.



In the Five-Pulley Carrier the Pulleys are set in line upon hollow renewable steel spindles connecting four rigid and well proportioned supporting stands. By this arrangement an exceedingly rigid construction is secured, with the spindles serving as a continuous tube through which grease is supplied to all the pulleys by means of only two large grease cups to each carrier.

IMPORTANT:—Completely fill the grease passages when first installed with grease, then an occasional turn of each cup will assure good lubrication.

Dimensions of Five Pulley Troughing Belt Carriers

Width* of Belt Inches	List Price	Approx. Weight Board Lbs.	Dimensions—Inches						
			A	B	C	D	K	M	N
24	See	70	8⅞	36	1⅝	30	12⅛	24½	33¾
30	Price	82	8⅞	44	1⅝	38	12⅞	30	39¼
36	List	99	8⅞	50	1⅝	44	13⅝	35¾	45
42	Bulletin	115	8⅞	56	1⅝	50	13¾	41⅞	50½
48		130	8⅞	62	1⅝	56	15¼	47	55¾

*All Carriers are **Carried in Stock** in quantities to meet all ordinary demands.

Roller Bearing Belt Carriers

Concentrating Carrier

At the left is shown the Jeffrey Concentrating Carrier, made up of cast iron cone and steel flat pulleys, mounted upon Roller Bearings and equipped with a high pressure lubrication system.

Five Pulley Carrier

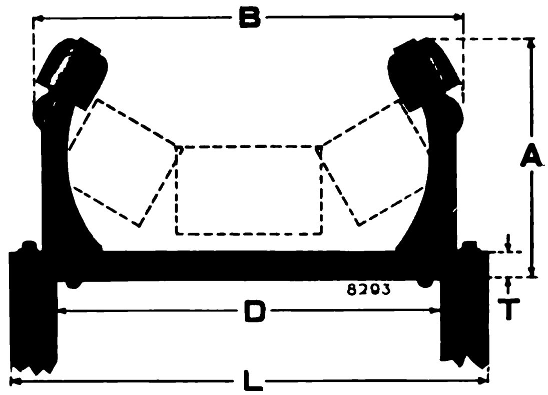
Where economy of power consumption is an important factor, a Five Pulley Carrier similar to that shown on opposite page, equipped with Roller Bearings and high pressure lubrication system can be furnished, as well as the Concentrating Carrier shown above.

Belt Conveyor Guide Pulleys

For Three and Five Pulley Troughing Belt Carriers

Jeffrey Guide Pulleys are designed so as to permit of a minimum over-all width of conveyor. The smooth, curved ends of the Jeffrey patented pulleys protect the edges of the belt from possible injury, whereas the old style square-edged pulleys ruined many belts.

Guide Pulleys are seldom necessary for belts over 24" and cannot be used for any Conveyor using a Tripper.



Guide Pulleys for Three Pulley Carriers

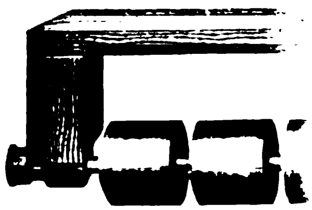
Width* of Belt Inches	List Price	Approx. Weight with Board, Lbs.	Dimensions—Inches A	B	D	L	T
14		**21.0**	**13¾**	**22¾**	**20**	**24**	**1⅛**
16	See	**21.5**	**13¾**	**25**	**22**	**26**	**1⅛**
18	Price	**23.0**	**15¾**	**26¼**	**24**	**30**	**1⅛**
20	List	**25.0**	**15¾**	**28½**	**26**	**32**	**1⅛**
24	Bulletin	25.8	16¼	33	30	36	1⅝
30		27.5	16¼	39¾	38	44	1⅝
For Five Pulley Carriers							
24	See	**25.8**	**16¼**	**33¼**	**30**	**36**	**1⅝**
30	Price List	**30.5**	**16⅞**	**38½**	**38**	**44**	**1⅝**
36	Bulletin	**35.0**	**17¼**	**45¼**	**44**	**50**	**1⅝**

*All Guide Pulleys in Bold Face Type are **Carried in Stock** in quantities to meet all ordinary demands.

Belt Conveyors

Belt Conveyor Return Idlers

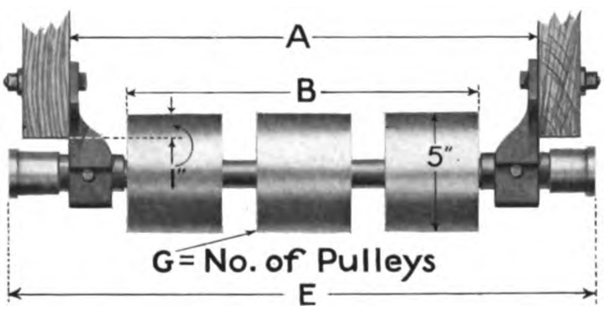
With Swivel Bearings and Grease Cups for Three and Five Pulley Carriers



Can be mounted on either wood or steel stringers.

Bottom-Hanging Swivel-Bearing | **Side-Hanging Swivel-Bearing**

Side-Hanging type furnished unless otherwise specified.



Dimensions of Return Idlers

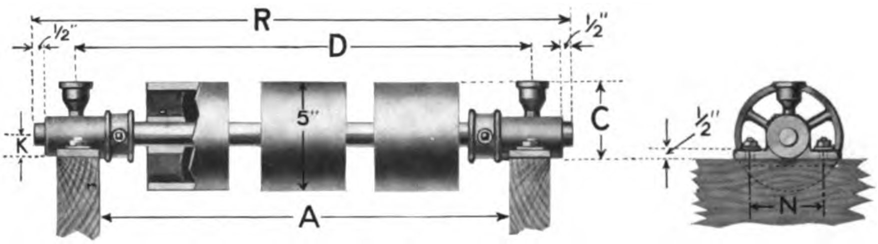
Width of Belt Inches	List Price Each	Approx. Weight Lbs.	Dimensions—Inches				
			A	B	E	E	G
			For both Side and Bottom Hangers		For Side Hangers	For Bottom Hangers	
14		23	20	15	24¼	28	3
16	See	23	22	17	26¼	30	3
18		28	24	19	28¼	32½	4
20	Price	29	26	21	30¼	34½	4
24		38	30	25	34¼	38½	4
30	List	47	38	31	42¼	46½	5
36		48	44	37	48¼	52½	5
42	Bulletin	56	50	43	54¼	58½	6
48		58	56	49	60¼	64½	6

Idlers in **Bold Face Type** are **Carried in Stock.**

The Jeffrey Malleable Iron Hanger while lighter in appearance than the ordinary cast iron hanger is much stronger in service and therefore a greater insurance to the continuous performance of the conveyor in rough and rugged service.

All edges are nicely rounded to prevent any possible injury to the belt.

Standard Carriers for Flat Belts

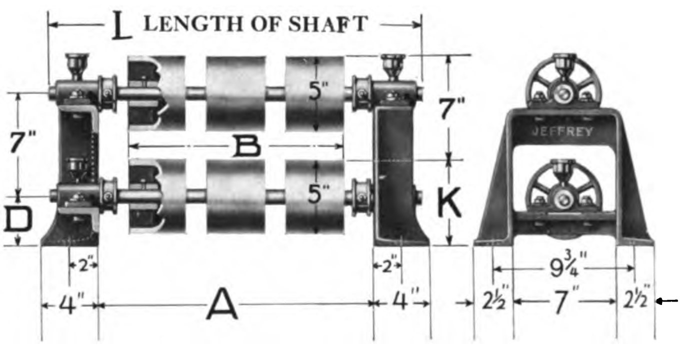


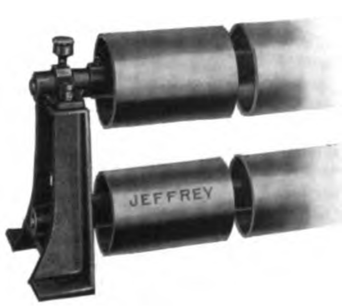
The above Carrier including bearings may be used for both Carrier and Return Idler service, by mounting same upon separate pairs of wood stringers placed above each other, or upon the top and bottom of one pair of stringers. See also "Combination" stands, as illustrated below, where stringers are not used.

Dimensions

Width of Belt Inches	List Price	Approx. Weight Lbs.†	Dimensions—Inches A	C	D	R	Width of Belt Inches	List Price	Approx. Weight Lbs.†	Dimensions—Inches A	C	D	R
14		28	20	3⅜	22	26	30		63	38	3⅝	40½	45½
16	See	28	22	3⅜	24	28	36	See	65	44	3⅝	46½	51½
18	Price	35	24	3⅜	26½	30½	42	Price	74	50	3⅝	52½	57½
20	List	35	26	3⅜	28½	32½	48	List	76	56	3⅝	58½	63½
24	Bulletin	53	30	3⅝	32½	37½		Bulletin					

Combination Carrying and Return Idlers with Stands for Flat Belts





Dimensions

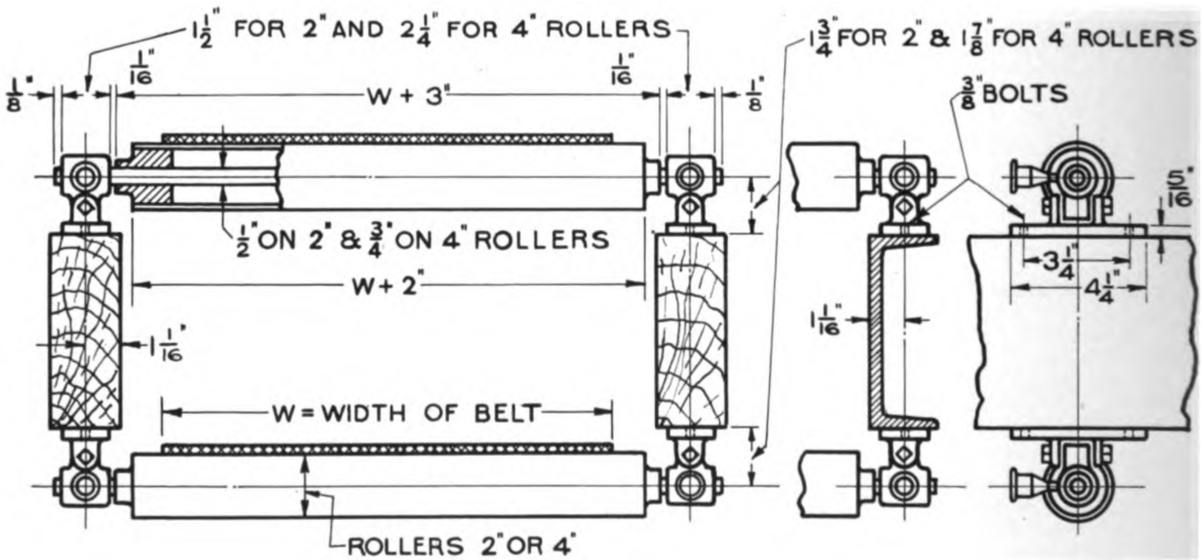
Width of Belt Inches	List Price	Approx. Weight Lbs.†	Dimensions—Inches A	B	D	K	L
14		84	19¼	15	3⅛	5⅝	26
16	See	84	21¼	17	3⅛	5⅝	28
18		98	23¾	19	3⅛	5⅝	30½
20	Price	98	25¾	21	3⅛	5⅝	32½
24		133	29¾	25	3⅜	5⅞	37½
30	List	153	37¾	31	3⅜	5⅞	45½
36		157	43¾	37	3⅜	5⅞	51½
42	Bulletin	175	49¾	43	3⅜	5⅞	57½
48		179	55¾	49	3⅜	5⅞	63½

†Complete as illustrated.

Belt Conveyors

Swivel Bearing Flat Belt Carriers

This bearing has a freedom of action similar to that of a universal joint. It pivots vertically about the bolt through its base and also horizontally, by reason of the hole through its base being taper slotted.



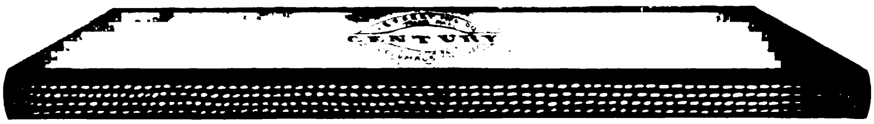
A Rugged and Durable Carrier with its pivoted bearings fitted with babbitt so that but an occasional turn of the small grease cups insures an almost friction-less conveyor.

The one design of carrier is used for both the conveying and return belt, and may be mounted upon wood or steel stringers as shown in line drawing.

2" Diameter Roller						4" Diameter Roller					
Width Belt	List Price	Approx. Wt. in Lbs. with Bearings	Width Belt	List Price	Approx. Wt. in Lbs. with Bearings	Width Belt	List Price	Approx. Wt. in Lbs. with Bearings	Width Belt	List Price	Approx. Wt. in Lbs. with Bearings
14"	See	9.3	20"	See	11.1	18"	See	20.7	36"	See	31.5
16"	Price	9.9	24"	Price	12.3	20"	Price	21.9	42"	Price	35.1
18"	List	10.5	30"	List	14.1	24"	List	24.3	48"	List	38.7
	Bulletin			Bulletin		30"	Bulletin	27.9		Bulletin	

Belt Conveyors

"Century" Conveyor Belt



Typical Cross-section of "Century" Conveyor Belt, 4-Ply $\frac{1}{16}$" Cover

THE "Century" Belt is made exclusively for us. The DUCK is of more than ordinary tensile strength longitudinally, and admits of great flexibility cross-wise thereby giving a close conformity to the troughing carriers and insuring maximum capacities.

The "FRICTION" or adhesive between the plies is a good substantial rubber compound of strong elastic tendrils, like threads, which hold the plies together and keep their life under proper working conditions during the service of the belt.

The COVER is strong, tenacious, and resilient. It protects the body of the belt from the entrance of moisture; cushions ordinary impact without injury; and reduces wear from abrasion to a minimum where proper loading facilities are installed.

The EDGES will stay on until the belt is worn through. The top cover in one piece is carried around the edges and into the back cover, where its ends are connected into the belt structure. Our belts are cured under stretch. This avoids any troublesome skew of the belt when put in service, and makes a belt which will run straight and stay straight.

Century Rubber Belts are adapted to the handling of any materials either wet or dry, which are not of a plastically sticky nature. Some semi-adhesive substances however may be handled where rotating brushes, especially designed for such service, are used. Materials hotter than 140 degrees—150 degrees F, (60 degrees, to 66 degrees C) will too rapidly deteriorate rubber belts, and therefore should be reduced in temperature by baffle chutes or other means leading into the loading chute, before touching the belt.

A Belt should conform to a troughing carrier by its own weight in order to get the guiding action of the central horizontal pulleys of the carrier. If too stiff the belt will ride the inclined sides of the troughing pulleys or run out of line over the edges of the pulleys, thereby injuring the edges of the belt. If too flexible the belt will crease lengthwise in the bends of the carrier trough and be weak at the edges.

For List Price—See Price List Bulletin

PLY	Rubber Cover Top Side	Weight in Pounds per Lineal Foot of Belts of the Following Widths										Thickness
		12"	14"	16"	18"	20"	24"	30"	36"	42"	48"	
3	3/128"	1.27	1.48	1.69	1.90	2.11	2.53	3.16	3.79	4.42	5.05	7/32"
	1/16"	1.51	1.76	2.01	2.26	2.51	3.01	3.76	4.51	5.26	6.01	1/4"
	1/8"	1.99	2.32	2.65	2.98	3.31	3.97	4.96	5.95	6.94	7.93	5/16"
	3/16"	2.47	2.88	3.29	3.70	4.11	4.93	6.16	7.39	8.62	9.85	3/8"
4	3/128"	1.54	1.79	2.05	2.30	2.56	3.07	3.83	4.60	5.36	6.13	9/32"
	1/16"	1.78	2.07	2.37	2.66	2.96	3.55	4.43	5.32	6.20	7.09	5/16"
	1/8"	2.26	2.63	3.01	3.38	3.76	4.51	5.63	6.76	7.88	9.01	3/8"
	3/16"	2.74	3.19	3.65	4.10	4.56	5.47	6.83	8.20	9.56	10.93	7/16"
5	3/128"	1.80	2.10	2.40	2.70	3.00	3.60	4.50	5.40	6.30	7.20	11/32"
	1/16"	2.04	2.38	2.72	3.06	3.40	4.08	5.10	6.12	7.14	8.16	3/8"
	1/8"	2.52	2.94	3.36	3.78	4.20	5.04	6.30	7.56	8.82	10.08	7/16"
	3/16"	3.00	3.50	4.00	4.50	5.00	6.00	7.50	9.00	10.50	12.00	1/2"
6	3/128"	2.07	2.41	2.76	3.10	3.45	4.14	5.17	6.21	7.24	8.28	13/32"
	1/16"	2.31	2.69	3.08	3.46	3.85	4.62	5.77	6.93	8.08	9.24	7/16"
	1/8"	2.79	3.25	3.72	4.18	4.65	5.58	6.97	8.37	9.76	11.16	1/2"
	3/16"	3.27	3.81	4.36	4.90	5.45	6.54	8.17	9.81	11.44	13.08	9/16"
7	3/128"	2.33	2.72	3.11	3.50	3.89	4.67	5.84	7.01	8.18	9.35	15/32"
	1/16"	2.57	3.00	3.43	3.86	4.29	5.15	6.44	7.73	9.02	10.31	1/2"
	1/8"	3.05	3.56	4.07	4.58	5.09	6.11	7.64	9.17	10.70	12.23	9/16"
	3/16"	3.53	4.12	4.71	5.30	5.89	7.07	8.84	10.61	12.38	14.15	5/8"
8	3/128"	2.60	3.03	3.47	3.90	4.34	5.21	6.51	7.82	9.12	10.43	17/32"
	1/16"	2.84	3.31	3.79	4.26	4.74	5.69	7.11	8.54	9.96	11.39	9/16"
	1/8"	3.32	3.87	4.43	4.98	5.54	6.65	8.31	9.98	11.64	13.31	5/8"
	3/16"	3.80	4.43	5.07	5.70	6.34	7.61	9.51	11.42	13.32	15.23	11/16"

For Troughed Belts:—Between Heavy Zig Zag Lines, Standard Ply for Proper Flexibility.

For Flat Belts:—All belts below upper Zig Zag Lines are Standard for Proper Flexibility, but for very light service 3 ply may be used for 16" and 18" with 4 ply for 24" belts.

Belt Covers best adapted to Light and Heavy Service

Rubber Covers:—For grain, sugar, corn, clay, sawdust, shavings, etc., use "Regular Cover" (About 3/128 inches thick); For cement, small coal, dirt, sand, etc. $\frac{1}{16}$" cover; and for cold clinker, ores, stone, large coal, etc. 1/8" cover. At purchaser's request $\frac{3}{16}$" and 1/4" covers are furnished for very severe service.

Belt Conveyors

Conveyor Belting

BALATA BELT occupies a position between Rubber and Stitched Canvas Belting described below. It is adapted to the handling of non-abrasive and semi-gritty materials under dry or wet conditions, at temperatures not exceeding 120 degrees Fahrenheit.

Balata is a vegetable gum found in Venezuela and the Dutch East Indies. In nature it lies between gutta percha and india rubber, but differs from them in its great tensile strength, freedom from oxidation, and the fact that it does not deteriorate with age. The Balata in a liquid form, is applied under pressure to the fabric, so that the gum penetrates every fibre of the fabric, thoroughly water proofing it.

Jeffrey Stitched Canvas Belting is suited to the handling of non-abrasive and semi-gritty materials under dry or wet conditions, at temperatures, not exceeding 212 degrees Fahrenheit.

A special width of high grade cotton duck is woven for each width and ply of belting, thus giving two selvage edges, thereby insuring true and even running on the carriers. Every belt is stitched lengthwise with heavy cotton twine in rows about one-quarter inch apart, each row being perfectly straight for the entire length of the belt. The complete belts are immersed and saturated in a compound which renders them impervious to the action of water, steam, oils and gases, but does not affect their flexibility.

Made in 4, 5, 6 and 8 ply in 12", 14", 16", 18" to 48" etc. widths.

Cotton Belting—The strength of this belt is equal to that of rubber or canvas, combined with exceptional flexibility; thus making it an excellent belt, for handling light non-abrasive materials or packages, etc., under dry conditions.

Cotton belting being solid woven, under a constant stress, the pull is distributed equally thru out all parts with no plies to separate.

Made in 2, 3, 4, 5, 6 and 8 ply in 14", 16" to 48", etc. widths

Lacing. For all ordinary belt conveyor installations a flexible metallic lacing with teeth which clinch around the warp or lengthwise threads of the belt and not around the filler threads, should be used such as:—the "Alligator," "Turtle" and other similar brands. In lacing a belt be sure to first make the belt ends square with the sides.

"Maxlife" Conveyor Belt

"MAXLIFE" Belting embodies all of the high class construction features of the "Century" brand, plus an extra quality of rubber, both in toughness and wearing qualities for hard abrasive materials, and especially in such service where properly designed loading facilities, noted on page 240, cannot completely be attained or maintained with the "Century" brand.

This Belt while of par excellence for any material handled on a belt has its special or economical application in the Metal Mining Industry where the service is extremely hard and the tonnage large; in fact it was for that industry that "Maxlife" Belting was designed and built, after a most careful field analysis of all the elements entering into the handling of ores.

For List Price—See Price List Bulletin

1/16" 1/8", 3/16", 1/4" Cover					
Width Inches	4 Ply	5 Ply	6 Ply	7 Ply	8 Ply
12	*				
14	*				
16	*	*			
18	*	*			
20	*	*	*		
22	*	*	*		

1/16", 1/8", 3/16", 1/4" Cover					
Width Inches	4 Ply	5 Ply	6 Ply	7 Ply	8 Ply
24	*	*	*		
26	*	*	*		
28	*	*	*		
30	*	*	*		
32		*	*	*	*
34		*	*	*	*

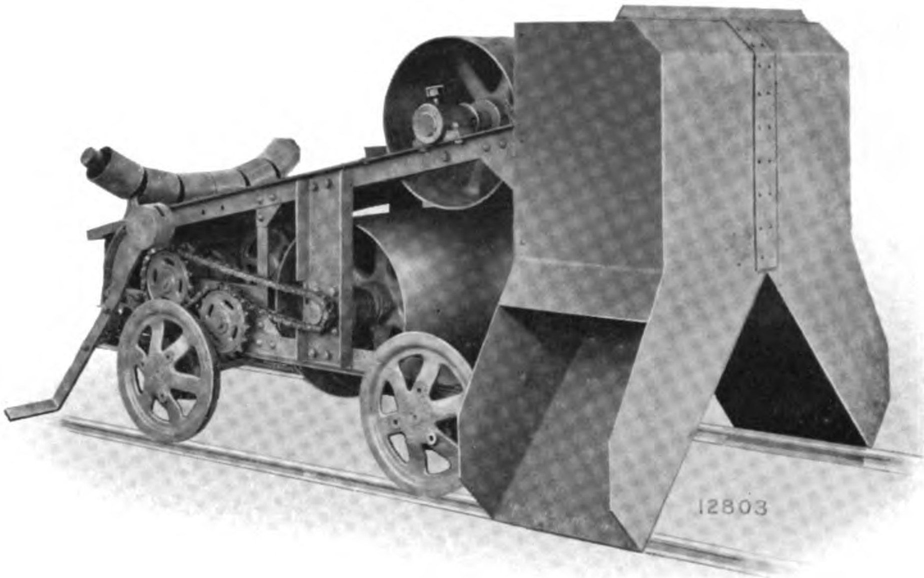
1/16", 1/8", 3/16", 1/4" Cover					
Width Inches	4 Ply	5 Ply	6 Ply	7 Ply	8 Ply
36		*	*	*	*
42		*	*	*	*
48		*	*	*	*
54		*	*	*	*
60		*	*	*	*

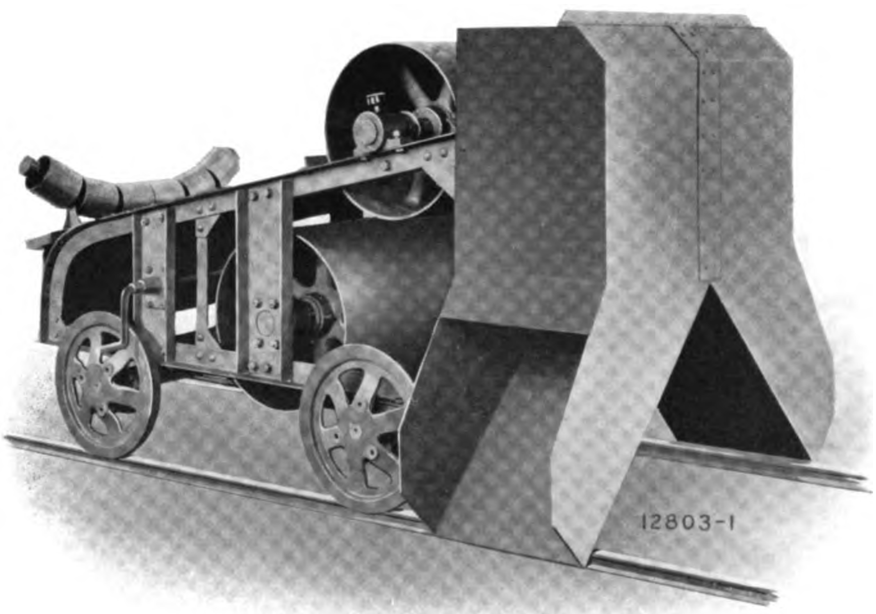
Bold Faced Type indicates Belt Widths for Standard Carriers. Thickness of Cover at head of column applies to carrying side only. Belts over 450 to 500 feet long are furnished in 2 lengths, with the shorter pieces not less than 100 feet long.
*Indicates the plys of belt which can be furnished.

Automatic Traveling Trippers

(Pat. applied for)

Self-Propelled Auto-matic Reversing Belt Tripper





Hand-Propelled Belt Tripper

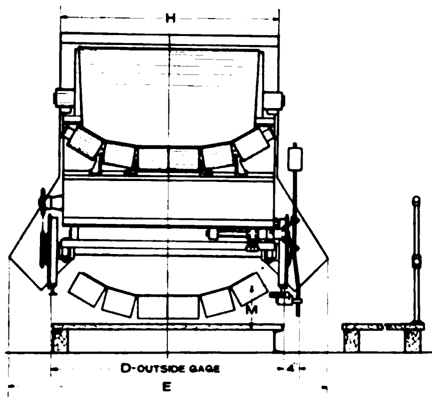
TRIPPERS must be used where it is necessary to discharge the load from the belt at intermediate points along the length of the conveyor. If the discharge is at one fixed point a Stationary Tripper may be used.

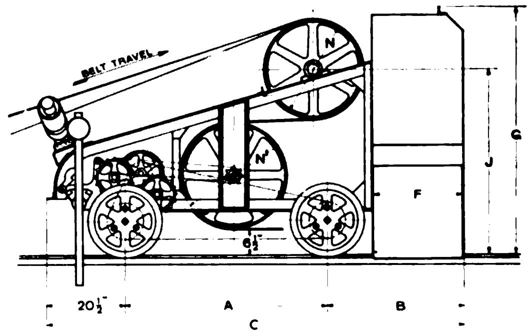
To discharge at a number of points along a conveyor, it used to be customary to install a number of stationary trippers with a chute and a valve at each point so arranged that the material carried could be loaded back onto the belt and be carried to the next tripper. However, as the life of a belt is shortened in proportion to the number of loading points onto it, it readily can be seen that this method was far from being ideal. For such conditions we recommend one of the Traveling Trippers shown on this page.

Belt Conveyors

Automatic Traveling Trippers

(Pat. applied for)



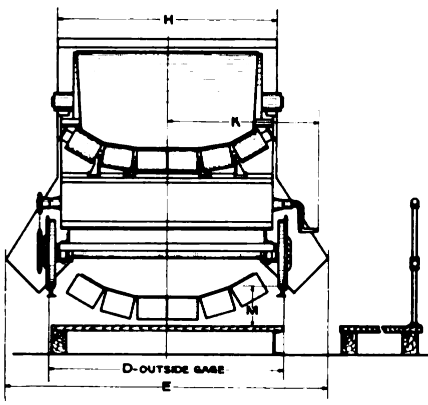


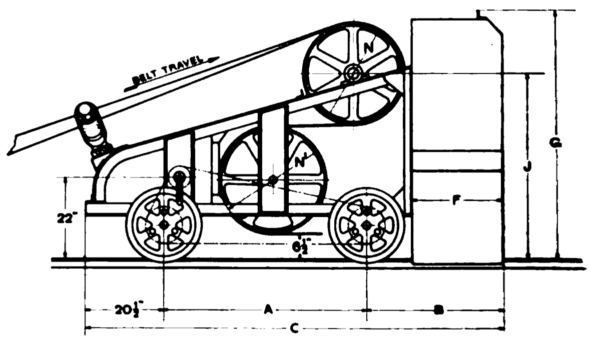
Self-Propelled Automatic Reversing Belt Tripper

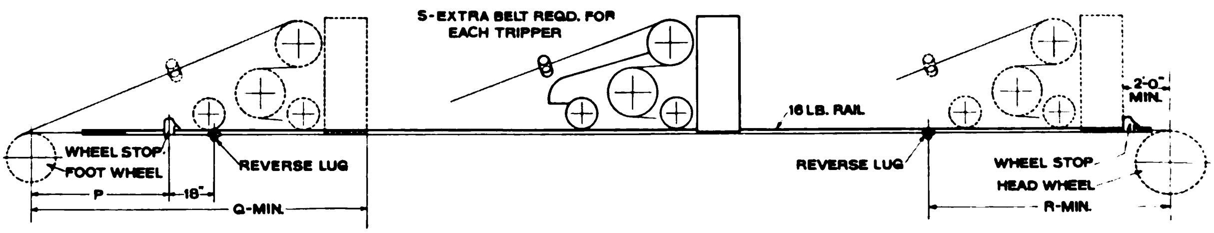
(Right hand shown)

Hand-Propelled Belt Tripper

(Right hand shown)







General Arrangement of Belt Trippers

Dimensions of Hand and Self Propelled Belt Trippers

Width of Belt	A	B	C	D	E	F	G	H	J	K*	M	N	N1	P	Q	R	S
18	3'- 3"	2'- 2"	7'-1½"	2'-8"	4'-7"	14"	4'- 0"	2'- 3½"	3'- 0"	2'- 1½"	9¾"	16"	18"	7'- 8"	14'- 5"	9'- 8"	8'-0"
24	3'- 3½"	2'- 4"	7'-4"	3'-2"	5'-0½"	16"	4'- 2"	2'- 9½"	3'- 2"	2'- 4½"	10"	18"	20"	7'- 7½"	14'- 7½"	9'-10"	8'-6"
30	3'- 7"	2'- 6"	7'-9½"	3'-8"	5'-6"	18"	4'- 6½"	3'- 4"	3'- 5"	2'- 7½"	10½"	20"	22"	8'- 9"	16'- 2½"	10'- 4"	9'-6"
36	3'-10½"	2'- 8"	8'-3"	4'-2"	6'-0"	20"	4'-11"	3'-10"	3'- 8"	2'-10½"	11½"	22"	24"	9'-11"	17'-10"	10'-9"	10' 6"
42	4'- 2"	2'-10"	8'-8½"	4'-8"	6'-8"	22"	5'- 2"	4'- 4"	3'-10½"	3'- 1½"	11½"	24"	26"	10'- 5"	18'- 8"	11'- 3"	11'-0"
48	4'- 5½"	3'- 0"	9'-2"	5'-2"	7'-3"	24"	5'- 6"	4'-10"	4'- 1½"	3'- 4½"	13"	26"	28"	11'- 8"	20'- 5"	11'- 8"	11'-6"

*K Dimension for Hand Propelled Tripper only.

Unless otherwise specified, trippers are furnished right hand as shown. A right hand tripper has the operating mechanism on the right hand side looking in the direction of belt travel.

Trippers can be fitted with cleaning brushes if so desired.

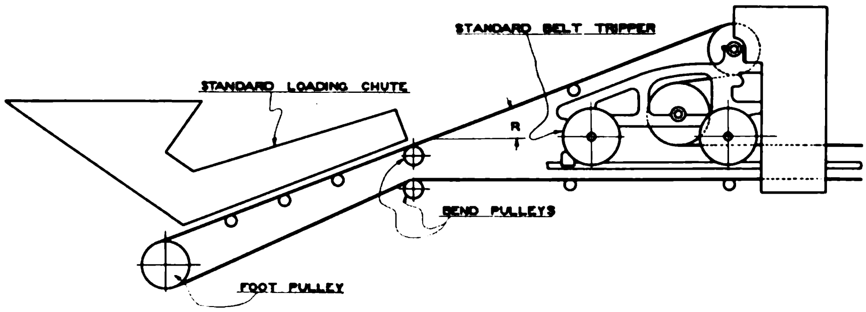
When ordering Standard Belt Conveyor, specify extra belt as given by "S" in table.

Do not use Guide Idlers with either of the Trippers.

Add 3 to 4 inches to dimensions given above for proper clearance to any outside structure.

Support Tripper rails midway between troughing carriers with rail joints over such supports.

Bend Pulleys extend the Travel of the Tripper



THE longest possible travel of a Tripper over its conveyor is obtained by deflecting the Foot End of the Belt Conveyor over Bend or Snub Pulleys, so that the angle of the Standard Loading Chute is the same as the angle "R" of the tripper, which is approximately 18°. By this method a maximum distribution of material by the tripper is secured for a comparatively short conveyor, a feature which is highly desirable when operating in a limited space over a short storage bin.

In this connection the hopper part of the Standard Loading Chute may be replaced by the head chute of an elevator which brings the material handled up from a track hopper below, as in a Power Plant, a Retail Coal Pocket, or a Sand and Gravel Plant.

It is to be noted that the skirt boards of the Loading Chute do not extend beyond the upper bend pulley.

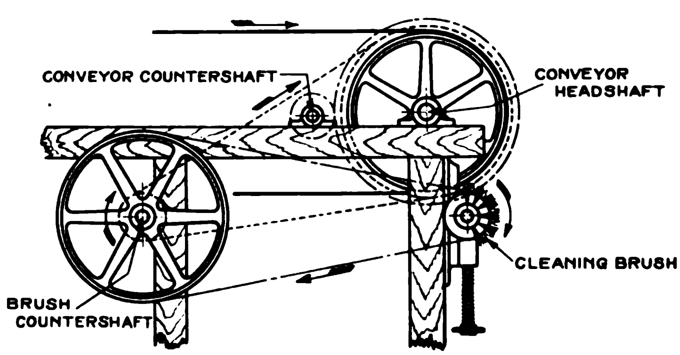
When the Tripper does not approach near enough to the loading chute for the belt in its gradual rise from the carriers to be cut by the loading skirts, the conveyor and its loading chute may be installed, wholly on the horizontal as shown on page 239. This condition applies especially to very long storage spaces.

Brushes Help Preserve the Carrying Surface of the Belt

Jeffrey Belt Cleaning Brush

WHEN there is any tendency for particles of the material handled to adhere to the surface of a belt, a rotating cylindrical cleaning brush should be used. Where space will permit, use a brush 12 inches in diameter but never less than 8 inches, with the face of the brush equal to the belt width.

The speed in feet per minute of the surface of the brush should be at least 800 to 1000 for dry dusty materials; 1000 to 1200 for damp materials; and 1200 to 1500 for wet sticky materials. Such brushes are specially constructed to embody to a nicety, stiffness, flexibility and durability for a maximum of clean sweeping without injury to the belt.



Cleaning Brush Arrangement for Head Pulley

Belt Conveyors

Jeffrey Standard Conveyors make easy the selection of a Conveyor for Every Service

JEFFREY Standard Belt Conveyors, pages 254 to 267, have been built up out of the various elements of good practice, given in the forward part of this section for the quick use of both the engineer and the manufacturer.

To order one of these Conveyors it is only necessary that you indicate the "Number" of the Conveyor as given in the Tables and the "Feet Centers" required, together with a short statement of the installation conditions.

Quickly Finding the Right Conveyor to Meet Your Requirements

The main point in the selection of a Standard Conveyor is the obtaining of the proper "Number" of the Conveyor from the Tables.

This is done by taking the following steps:

(1) **Length of Conveyor.** See that the required length of your Conveyor comes within the "Feet Centers" of the Table "0–100;" "101–200" etc., for weight of material you are handling.

(2) **Weight of Material.** The Table headings give conveyors for 50 and 100 pound materials. For materials weighing 50 pounds and less per cubic foot use Tables for 50 pound materials. For materials 100 pounds and greater use Tables for 100 pounds.

(3) **Size of Material.** Next, note the "Size of Material" of both "Uniform Size" and "Largest Pieces." If your "Uniform Size" and "Largest Pieces" come in different columns of a Table stay in the column having the widest belt.

(4) **Capacity Required.** Now see to it that the "Capacity" requirements can be met by the belt thus selected.

If the Capacity listed is **Too Small** you may increase the speed listed 33⅓% thereby increasing the capacity and Horse Power proportionally—otherwise move over in the Table to a wider belt of the capacity required.

If the Capacity listed is **Too Large** do not step down to a smaller Conveyor, but simply reduce the listed "Speed" and "Horse Power" to suit the capacity desired.

An Example under the rules for Finding Your Conveyor

EXAMPLE 1: Required the Number of a Horizontal Belt Conveyor 125 feet centers for Coal of an average "Uniform Size" of 2½" with "Largest Pieces" 5"; "Capacity" 100 tons per hour.

As coal weighs about 50 pounds per cubic foot and as the required centers of 125 feet is between "101 and 200 Feet Centers" The Conveyor required will be found in the Table upon page 255. Thus we have covered instruction steps (1) and (2) given above. Now the "Size of Material" is the next step. In the Table the 2½" "Uniform Size" falls under conveyor No. 314 while the 5" "Largest Pieces" call for No. 315.

But as 100 tons is the "Capacity" required and No. 315 will handle but 70 tons at the tabular speed of 260 feet we will first increase the speed 33⅓% as noted in step (4) thereby making the capacity 93 tons at a speed of 347 feet. However as 93 tons yet falls short of the 100 tons required we will have to "move over" in the Table to Conveyor No. 316 of 86 tons per hour which if increased 33⅓% in speed will give 115 tons per hour at 347 feet per minute.

Thus No. 316 becomes the conveyor required for the example. However if the Coal is easily broken in delivery the next Conveyor No. 318 rated at 143 tons for a speed of 300 feet had better be used,—the speed being reduced to 210 feet per minute proportional to the 100 tons required.

Readily Finding the Specifications and General Dimensions of Your Conveyor

From the Table, No. 316 consists of a 20 inch 4 ply Rubber Belt with 3 Pulley Troughing Carriers spaced 54 inches apart, also Return Idlers every 10 feet and Guide Idlers. The Head Shaft is $1\frac{15}{16}$" with a 20" Pulley and a 23.89" Diameter, 1" pitch, 2½" face Driving Gear, which in turn is driven by a $1\frac{7}{16}$" Countershaft having a 5.12" pinion. This countershaft receives the Purchaser's drive pulley or direct connected motor.

The Horse Power in the Table is 4.4 for 200 feet centers, so that for the 125 feet of the example the horse power will equal $^{125}/_{200}$ of 4.4 or 2.75 for the speed in the Table and for the 33⅓% increase of speed one third more or 3.67. Order a 5 Horse Power Motor.

General Dimensions of Conveyor No. 316 for either wood or steel construction are to be found upon page 264. Use Standard Loading Skirts, pages 239 and 240

Shipping Weights readily figured for Standard Conveyors

FOR Example 1 as given upon the previous page, the approximate Shipping Weight of Conveyor No. 316 for 125 feet centers, exclusive of packing, will be found in the Table as:—855 pounds for "Terminals" plus 125 times 20.3 equals 2538 pounds for the intermediate parts of Belt, Carriers, Returns and Guides thus making a total of 3392 pounds net weight.

Another Example Makes Clearer the Rules for Standard Conveyors

Required the "NUMBER," SHIPPING WEIGHT, and HORSE POWER of a Horizontal Belt Conveyor, 155 feet centers for 230 tons of coal per hour; average size lumps 5 inches with pieces not over 10 inches.

Upon page 255 for 50 pound materials and under 101–200 Feet Centers, the capacity of 230 tons falls between Conveyors No. 318 and 321. Therefore select the larger conveyor No. 321 with a capacity of 254 tons and a 30 inch belt, large enough for the size of material specified.

In the Table for Conveyor No. 321 the approximate shipping weight "per foot centers" is 35 pounds, thereby making 155 x 35 pounds or 5425 pounds for 155 feet centers. The "Terminals" weigh 1600 pounds while Guide Pulleys weigh 30.5 pounds per pair or 122 pounds for the four sets required. Therefore the Approximate Shipping Weight of the Conveyor (not including packing,) will be 5425 plus 1600 plus 122 pounds equals 7147 pounds.

The HORSE POWER for 200 feet centers is 9.6 in the Table, therefore 155 feet centers will require $^{155}/_{200}$ of 9.6 or 7.4 horse power at the countershaft. Use a 7½ or 10 horse power motor.

How to select an Inclined Conveyor

THE Standard Tables cover Horizontal Conveyors. However since each foot of rise of an Inclined Conveyor is equal to five feet on the Horizontal, you can readily figure an Inclined Conveyor in terms of a Horizontal Conveyor.

For Example: An Inclined Belt Conveyor 100 feet centers with a rise of 15 feet is needed to handle 140 tons of COAL per hour. Average size of lumps 4½ inches.

By the same method used in previous examples, CONVEYOR NUMBER 306 listed on page 254, gives the desired capacity for the size lumps, but since there is a rise of 15 feet in 100 feet, it follows from the above Rule that the 15 foot rise will be equivalent to adding 75 feet horizontal to the actual horizontal centers of 100 feet, thus making a total of 175 feet centers. Therefore it is necessary to select from the Table of "101–200 Feet Centers" a conveyor corresponding to No. 306, namely Conveyor No. 318 with shipping weight figured for 100 feet centers and horse power for 175 feet centers, i. e. $^{175}/_{200}$ of 6.6 equals 5.8. Order 7.5 horse power motor.

Handling Materials weighing less than 50 and 100 Pounds per Cubic Foot

A CONVEYOR handling less than 50 or 100 pound materials will deliver proportionately less "Tons per Hour" and require less Horse Power. Thus Conveyor No. 306 page 254, at 100 feet long, for 30 pound material will require at 300 feet per minute $^{30}/_{50}$ of 3.3 or about 2 Horse Power.

Handling Materials Weighing More Than 100 Pounds per Cubic Foot

A Conveyor handling materials weighing more than 100 pounds per cubic foot may be selected from the "100 pound Tables" provided the required length is not greater than that part of the maximum length in the Tables, which is expressed by the ratio of 100 pounds to the weight of the material handled. For example:—the maximum length of "400 Feet Centers" as given for 100 pound materials page 263, will be $^{100}/_{150}$ x 400 or 267 feet maximum length for 150 pound materials. Within this new maximum length all other values in the Table remain unchanged except that the "Horse Power" will increase in proportion to the increase in weight of the material carried.

The maximum "Feet Centers" of the Tables for 100 pound materials may be used however for heavier materials provided the skirt boards of the Loading Chute can be brought close enough together in the handling of large pieces to reduce the cross section of the material in transit proportional to the increase in weight per cubic foot.

Reducing and Increasing Conveyor Speeds

REDUCING the Belt Speeds to not less than 150 feet per minute or more than 33⅓% is permissible. Reducing the speeds will proportionately reduce the "Tons per Hour" and the Horse Power also, while increasing the speeds will proportionately increase them. Thus Conveyor No. 342 page 257, at 200 feet per minute will deliver $^{200}/_{300}$ of 143 or 95 Tons per Hour, while the same conveyor at 400 feet will deliver $^{400}/_{300}$ of 143 or 191 tons per hour.

Belt Conveyors

Horizontal Standard Belt Conveyors 0 to 100 Feet Centers

For 50 Pound Materials Such as Coal

No. of Conveyor	301	302	303	304	306	309	312	421	422
Size of Material, Inches (page 234)									
Uniform Size or 70% to 80% of Unsized Material	2	2½	3	3½	4½	6	7½	9	10½
With Largest Pieces not to exceed 10% of all	3	4	5	6	8	11	14	17	20
Capacity—(pages 234-236)									
Tons per Hour	36	48	70	86	143	254	404	601	862
Speed in Feet per Minute	225	225	260	260	300	340	375	410	450
Belt—"Century" (page 247)									
Width—Inches	14	16	18	20	24	30	36	42	48
Ply, with 1/16" Rubber Cover	4	4	4	4	5	5	6	6	7
Spacing of Carriers									
Three Pulley Troughing—Inches (page 241)	60	60	54	54	....	....	....	....	....
Five Pulley Troughing—Inches (page 242)	....	....	....	....	48	48	42	42	42
Side Hanging Returns, Feet (page 244)	10	10	10	10	10	10	10	10	10
Head Shaft. At Discharge End									
Diameter of Shaft—Inches	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 15/16	2 15/16	3 7/16
Diameter of Pulley—Inches	20	20	20	20	24	24	30	30	36
Diameter of Gear—Inches	23.89	23.89	23.89	23.89	23.89	23.89	29.83	29.83	40.12
Pitch of Gear—Inches	1	1	1	1	1	1	1¼	1¼	1½
Face of Gear—Inches	2½	2½	2½	2½	2½	2½	3	3	4
Counter Shaft									
Diameter of Shaft—Inches	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	2 7/16	2 7/16	2 11/16
Rev. per Minute	202	202	234	234	225	254	240	262	268
Diameter of Pinion—Inches	5.12	5.12	5.12	5.12	5.12	5.12	6.01	6.01	7.22
†Horse Power (page 237) at Counter Shaft for 100 Feet Centers	0.9†	1.2†	1.8†	2.2	3.3	4.8	7.7	10.6	14.2
Diameter of Foot Shaft—Inches	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	2 7/16	2 11/16	2 15/16
Diameter of Foot Pulley—Inches	16	16	16	16	20	20	24	24	28
Approx. Weights—Lbs.									
Terminals§	635	674	727	777	1182	1358	2126	2505	3648
Conveyor per Ft. Centers§	13.0	14.0	18.6	20.4	28.9	34.8	47.0	55.0	63.0
Guide Idlers per Set (page 243)	*	*	*	*	25.8	30.5	35.0	....	....

*Guide Idlers for these conveyors are included in weight of "Conveyor per Ft. Centers."

†In no case should separate motor drives be less than 1½ to 2 Horse Power.

§Terminals comprise Head, Counter and Foot Shafts, Bearings, Set Collars, Gear and Pinion; Head and Foot Pulleys with Belt to extend halfway around pulleys. Conveyor per Foot Centers comprise carrying and return idlers with the necessary belt.

For Erection Dimensions of above Conveyors, see page 264.

For Incline Conveyors, see page 253.

Horizontal Standard Belt Conveyors 101 to 200 Feet Centers

For 50 Pound Materials Such as Coal

No. of Conveyor	313	314	315	316	318	321	324	426	427
Size of Material, Inches (page 234)									
Uniform Size or 70% to 80% of Unsized Material	2	2½	3	3½	4½	6	7½	9	10½
With Largest Pieces not to exceed 10% of all	3	4	5	6	8	11	14	17	20
Capacity, (pages 234–236)									
Tons per Hour	36	48	70	86	143	254	404	601	862
Speed in Feet per Minute	225	225	260	260	300	340	375	410	450
Belt, "Century" (page 247)									
Width—Inches	14	16	18	20	24	30	36	42	48
Ply, with 1/16" Rubber Cover	4	4	4	4	5	5	6	6	7
Spacing of Carriers									
Three Pulley Troughing—Inches (page 241)	60	60	54	54	....	....	....	....	....
Five Pulley Troughing—Inches (page 242)	....	....	....	....	48	48	42	42	42
Side Hanging Returns, Feet (page 244)	10	10	10	10	10	10	10	10	10
Head Shaft. At discharge end									
Diameter of Shaft—Inches	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 15/16	3 7/16	3 7/16	3 15/16
Diameter of Pulley—Inches	20	20	20	20	24	24	30	30	36
Diameter of Gear—Inches	23.89	23.89	23.89	23.89	23.89	29.83	32.00	36.78	36.78
Pitch of Gear—Inches	1	1	1	1	1	1¼	1½	1¾	1¾
Face of Gear—Inches	2½	2½	2½	2½	2½	3	4	5½	5½
Counter Shaft									
Diameter of Shaft—Inches	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	2 7/16	2 11/16	2 11/16	2 15/16
Rev. per Minute	202	202	234	234	225	270	214	245	226
Diameter of Pinion—Inches	5.12	5.12	5.12	5.12	5.12	6.01	7.22	7.86	7.86
†Horse Power (page 237) at Counter Shaft for 200 Feet Centers	1.8†	2.4	3.6	4.4	6.6	9.6	15.4	21.2	28.4
Diameter of Foot Shaft—Inches	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 15/16	2 15/16	3 7/16
Diameter of Foot Pulley—Inches	16	16	16	16	20	20	24	24	28
Approx. Weights—Lbs.									
Terminals§	708	752	802	855	1185	1600	2512	3002	4281
Conveyor per Ft. Centers§	13.0	14.0	18.5	20.3	24.9	35.0	47.2	55.2	63.2
Guide Idlers per Set (page 243)	*	*	*	*	25.8	30.5	35.0	....	....

*Guide Idlers for these Conveyors are included in weight of "Conveyor per Foot Centers."

†In no case should separate motor drives be less than 1½ to 2 Horse Power.

§Terminals comprise Head, Counter and Foot Shafts, Bearings, Set Collars, Gear and Pinion; Head and Foot Pulleys with Belt to extend halfway around pulleys. Conveyor per Foot Centers comprise carrying and return idlers with the necessary belt.

For Erection Dimensions of above Conveyors, see page 264.

For Incline Conveyors, see page 253.

Belt Conveyors

Horizontal Standard Belt Conveyors 201 to 300 Feet Centers

For 50 Pound Materials Such as Coal

No. of Conveyor	325	326	327	328	330	333	336	428	429
Size of Material, Inches (page 234)									
Uniform Size or 70% to 80% of Unsized Material	2	2½	3	3½	4½	6	7½	9	10½
With Largest pieces not to exceed 10% of all	3	4	5	6	8	11	14	17	20
Capacity—(pages 234-236)									
Tons per Hour	36	48	70	86	143	254	404	601	862
Speed in Feet per Minute	225	225	260	260	300	340	375	410	450
Belt, "Century" (page 247)									
Width—Inches	14	16	18	20	24	30	36	42	48
Ply, with $\frac{1}{16}$" Rubber Cover	4	4	4	4	5	5	6	6	7
Spacing of Carriers									
Three Pulley Troughing—Inches (page 241)	60	60	54	54	....	....	....	....	....
Five Pulley Troughing—Inches (page 242)	....	....	....	....	48	48	42	42	42
Side Hanging Returns, Feet (page 244)	10	10	10	10	10	10	10	10	10
Head Shaft. At discharge end									
Diameter of Shaft—Inches	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$	$3\frac{15}{16}$	$4\frac{7}{16}$
Diameter of Pulley—Inches	20	20	20	20	24	24	30	30	36
Diameter of Gear—Inches	23.89	23.89	23.89	23.89	29.83	32.00	36.78	41.24	36.78
Pitch of Gear—Inches	1	1	1	1	1¼	1½	1¾	1¾	1¾
Face of Gear—Inches	2½	2½	2½	2½	3	4	5½	6	5½
Counter Shaft									
Diameter of Shaft—Inches	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{11}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$
Rev. per Minute	202	202	234	234	240	241	225	257	226
Diameter of Pinion—Inches	5.12	5.12	5.12	5.12	6.01	7.22	7.86	8.42	7.86
†Horse Power (page 237) at Counter Shaft for 300 feet Centers	2.7	3.6	5.4	6.6	9.9	14.4	23.1	31.8	42.6
Diameter of Foot Shaft—Inches	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{11}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$	$3\frac{15}{16}$
Diameter of Foot Pulley—Inches	16	16	16	16	20	20	24	24	28
Approx. Weight—Lbs.									
Terminals§	710	752	802	928	1459	1996	2965	3837	5029
Conveyor per Ft. Centers	13.0	14.0	15.8	18.9	29.2	35.0	46.8	53.9	61.7
Guide Idlers per Set. (page 243)	*	*	*	*	25.8	30.5	35.0	....	....

*Guide Idlers for these conveyors are included in weight of "Belt and Idlers per Foot Centers."

†In no case should separate motor drives be less than 1½ to 2 Horse Power.

§Terminals comprise Head, Counter and Foot Shafts, Bearings, Set Collars, Gear and Pinion; Head and Foot Pulleys with Belt to extend halfway around pulleys. Conveyor per Foot Centers comprise carrying and return idlers with the necessary belt.

For Erection Dimensions of above Conveyors, see page 264.

For Incline Conveyors, see page 253.

Horizontal Standard Belt Conveyors 301 to 400 Feet Centers

For 50 Pound Materials Such as Coal

No. of Conveyor	337	338	339	340	342	345	348	430	431
Size of Material, Inches (page 234)									
Uniform Size or 70% to 80% of Unsized Material	2	2½	3	3½	4½	6	7½	9	10½
With Largest pieces not to exceed 10% of all	3	4	5	6	8	11	14	17	20
Capacity, (pages 234-236)									
Tons per Hour	36	48	70	86	143	254	404	601	862
Speed in Feet per Minute	225	225	260	260	300	340	375	410	450
Belt, "Century" (page 247)									
Width—Inches	14	16	18	20	24	30	36	42	48
Ply, with $\frac{1}{16}$" Rubber Cover	4	4	4	4	5	5	6	6	7
Spacing of Carriers									
Three Pulley Troughing—Inches (page 241)	60	60	54	54	....	....	....	....	....
Five Pulley Troughing—Inches (page 242)	....	....	....	....	48	48	42	42	42
Side Hanging Returns, Feet (page 244)	10	10	10	10	10	10	10	10	10
Head Shaft. At Discharge End									
Diameter of Shaft—Inches	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$	$3\frac{15}{16}$	$4\frac{7}{16}$	$4\frac{15}{16}$
Diameter of Pulley—Inches	20	20	20	20	24	24	30	30	36
Diameter of Gear—Inches	23.89	23.89	29.83	29.83	32.00	36.78	36.78	36.78	36.78
Pitch of Gear—Inches	1	1	1¼	1¼	1½	1¾	1¾	1¾	1¾
Face of Gear—Inches	2½	2½	3	3	4	5½	5½	5½	5½
Counter Shaft									
Diameter of Shaft—Inches	$1\frac{7}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{11}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$	$3\frac{15}{16}$
Rev. per Minute	202	202	250	250	215	254	226	245	226
Diameter of Pinion—Inches	5.12	5.12	6.01	6.01	7.22	7.86	7.86	7.86	7.86
†Horse Power (page 237) At Counter Shaft for 400 Feet Centers	3.6	4.8	7.2	8.8	13.2	19.2	30.8	42.4	56.8
Diameter of Foot Shaft—Inches	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{11}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$	$3\frac{15}{16}$	$4\frac{7}{16}$
Diameter of Foot Pulley—Inches	16	16	16	16	20	20	24	24	28
Approx. Weights—Lbs.									
Terminals§	708	825	942	1199	1816	2438	3456	4244	5776
Conveyor per Ft. Centers §	13.2	14.0	18.3	20.0	29.4	35.2	47.0	54.0	61.8
Guide Idlers per Set. (page 243)	*	*	*	*	25.8	30.5	35.0	....	....

*Guide Idlers for these conveyors are included in weight of "Conveyor per Foot Centers."

†In no case should separate motor drives be less than 1½ to 2 Horse Power.

§Terminals comprise Head, Counter and Foot Shafts, Bearings, Set Collars, Gear and Pinion; Head and Foot Pulleys with Belt to extend halfway around pulleys. Conveyor per Foot Centers comprise carrying and return idlers with the necessary belt.

For Erection Dimensions of above Conveyors, see page 265.

For Incline Conveyors, see page 253.

Belt Conveyors

Horizontal Standard Belt Conveyors 401 to 500 Feet Centers

For 50 Pound Materials Such as Coal

No. of Conveyor	349	350	351	352	354	357	360	432	433
Size of Material, Inches (page 234)									
Uniform Size or 70% to 80% of Unsized Material	2	2½	3	3½	4½	6	7½	9	10½
With Largest Pieces not to exceed 10% of all	3	4	5	6	8	11	14	17	20
Capacity, (page 234-236)									
Tons per Hour	36	48	70	86	143	254	404	601	862
Speed in Feet per Minute	225	225	260	260	300	340	375	410	450
Belt, "Century" (page 247)									
Width—Inches	14	16	18	20	24	30	36	42	48
Ply, with $\frac{1}{16}$" Rubber Cover	4	4	4	4	5	5	6	6	7
Spacing of Carriers									
Three Pulley Troughing—Inches (page 241)	60	60	54	54	....	....	....	....	....
Five Pulley Troughing—Inches (page 242)	....	....	....	....	48	48	42	42	42
Side Hanging Returns, Feet (page 244)	10	10	10	10	10	10	10	10	10
Head Shaft. At Discharge End									
Diameter of Shaft—Inches	$2\frac{7}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$	$4\frac{7}{16}$	$4\frac{7}{16}$	$4\frac{15}{16}$
Diameter of Pulley—Inches	20	20	20	20	24	24	30	30	36
Diameter of Gear—Inches	23.89	23.89	29.83	29.83	32.00	36.78	36.78	36.78	36.78
Pitch of Gear—Inches	1	1	1¼	1¼	1½	1¾	1¾	1¾	1¾
Face of Gear—Inches	2½	2½	3	3	4	5½	5½	5½	5½
Counter Shaft									
Diameter of Shaft—Inches	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{11}{16}$	$3\frac{7}{16}$	$3\frac{7}{16}$	$3\frac{15}{16}$
Rev. per Minute	202	202	249	249	214	254	225	245	226
Diameter of Pinion—Inches	5.12	5.12	6.01	6.01	7.22	7.86	7.86	7.86	7.86
†Horse Power (page 237) at Counter Shaft for 500 Feet Centers	4.5	6.0	9.0	11.0	16.5	24.0	38.5	53.0	71.0
Diameter of Foot Shaft—Inches	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{11}{16}$	$3\frac{7}{16}$	$3\frac{15}{16}$	$3\frac{15}{16}$	$4\frac{7}{16}$
Diameter of Foot Pulley—Inches	16	16	16	16	20	20	24	24	28
Approx. Weights—Lbs.									
Terminals§	786	974	1153	1208	1819	2657	3987	4248	5783
Conveyor per Ft. Centers§	13.4	14.1	18.3	20.1	29.2	35.2	46.9	53.9	61.7
Guide Idlers per Set, (page 243)	*	*	*	*	25.8	30.5	35.0	....	....

*Guide Idlers for these conveyors are included in weight of "Conveyor per Ft. Centers."

†In no case should separate motor drives be less than 1½ to 2 Horse Power.

§Terminals comprise Head, Counter and Foot Shafts, Bearings, Set Collars, Gear and Pinion; Head and Foot Pulleys with Belt to extend halfway around pulleys. Conveyor per Foot Centers comprises carrying and return idlers with the necessary belt.

For Erection Dimensions of above Conveyors, see page 265.

For Incline Conveyors, see page 253.

Horizontal Standard Belt Conveyors 501 to 600 Feet Centers

For 50 Pound Materials Such as Coal

No. of Conveyor	361	362	363	364	366	369	372	434	435
Size of Material, Inches (page 234)									
Uniform Size or 70% to 80% of Unsized Material	2	2½	3	3½	4½	6	7½	9	10½
With Largest Pieces not to exceed 10% of all	3	4	5	6	8	11	14	17	20
Capacity, (pages 234-236)									
Tons per Hour	36	48	70	86	143	254	404	601	862
Speed in Feet per Minute	225	225	260	260	300	340	375	410	450
Belt, "Century" (page 247)									
Width—Inches	14	16	18	20	24	30	36	42	48
Ply, with 1/16" Rubber Cover	4	4	4	4	5	5	6	6	7
Spacing of Carriers									
Three Pulley Troughing—Inches (page 241)	60	60	54	54	....	....	....	....	—
Five Pulley Troughing—Inches (page 242)	....	....	....	....	48	48	42	42	42
Side Hanging Returns, Feet (page 244)	10	10	10	10	10	10	10	10	10
Head Shaft. At Discharge End									
Diameter of Shaft—Inches	2 7/16	2 15/16	2 15/16	2 15/16	3 7/16	3 15/16	4 7/16	4 15/16	5 7/16
Diameter of Pulley—Inches	20	20	20	20	24	24	30	30	36
Diameter of Gear—Inches	23.89	29.83	29.83	32.00	36.78	36.78	36.78	36.78	48.41
Pitch of Gear—Inches	1	1¼	1¼	1½	1¾	1¾	1¾	1¾	2
Face of Gear—Inches	2½	3	3	4	5½	5½	5½	5½	6
Counter Shaft									
Diameter of Shaft—Inches	1 15/16	2 7/16	2 7/16	2 7/16	2 11/16	2 15/16	3 7/16	3 15/16	4 7/16
Rev. per Minute	202	215	249	223	225	254	225	245	240
Diameter of Pinion—Inches	5.12	6.01	6.01	7.22	7.86	7.86	7.86	7.86	9.62
†Horse Power (page 237) at Counter Shaft for 600 Feet Centers	5.4	7.2	10.8	13.2	19.8	28.8	46.2	63.6	85.2
Diameter of Foot Shaft—Inches	1 15/16	2 7/16	2 7/16	2 11/16	2 15/16	3 7/16	3 15/16	4 7/16	4 15/16
Diameter of Foot Pulley—Inches	16	16	16	16	20	20	24	24	28
Approx. Weights—Lbs.									
Terminals§	787	1096	1152	1555	2248	2914	3997	4837	7577
Conveyor per Ft. Centers §	13.2	14.0	18.4	20.2	29.2	35.2	46.9	54.0	61.4
Guide Idlers per Set, (Page 243)	*	*	*	*	25.8	30.5	35.0	....	....

*Guide Idlers for these conveyors are included in weight of "Conveyor per Ft. Centers."

†In no case should separate motor drives be less than 1½ to 2 Horse Power.

§Terminals comprise Head, Counter and Foot Shafts, Bearings, Set Collars, Gear and Pinion; Head and Foot Pulleys with Belt to extend halfway around pulleys. Conveyor per Foot Centers comprises carrying and return idlers with the necessary belt.

For Erection Dimensions of above Conveyors, see page 265.

For Incline Conveyors, see page 253.

Belt Conveyors

Horizontal Standard Belt Conveyors 0 to 100 Feet Centers

For 100 Pound Abrasive Materials Such as Stone

No. of Conveyor	373	374	375	376	378	381	384	436	437
Size of Material, Inches (page 234)									
Uniform Size or 70% to 80% of Unsized Material	2	2½	3	3½	4½	6	7½	9	10½
With Largest Pieces not to exceed 10% of all	3	4	5	6	8	11	14	17	20
Capacity, (pages 234-236)									
Tons per Hour	72	96	140	172	286	508	808	1202	1724
Speed in Feet per Minute	225	225	260	260	300	340	375	410	450
Belt, "Century" (page 247)									
Width—Inches	14	16	18	20	24	30	36	42	48
Ply, with ⅛" Rubber Cover	4	4	4	4	5	5	6	6	7
Spacing of Carriers									
Three Pulley Troughing—Inches (page 241)	60	60	54	54	....	....	....	....	....
Five Pulley Troughing—Inches (page 242)	....	....	....	....	48	48	42	42	42
Side Hanging Returns, Feet (page 244)	10	10	10	10	10	10	10	10	10
Head Shaft. At Discharge End									
Diameter of Shaft—Inches	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 15/16	2 15/16	3 7/16	3 15/16
Diameter of Pulley—Inches	20	20	20	20	24	24	30	30	36
Diameter of Gear—Inches	23.89	23.89	23.89	23.89	23.89	29.83	32.00	32.00	36.78
Pitch of Gear—Inches	1	1	1	1	1	1¼	1½	1½	1¾
Face of Gear—Inches	2½	2½	2½	2½	2½	3	4	4	5½
Counter Shaft									
Diameter of Shaft—Inches	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	2 7/16	2 7/16	2 11/16	2 15/16
Rev. per Minute	202	202	234	234	225	270	215	233	226
Diameter of Pinion—Inches	5.12	5.12	5.12	5.12	5.12	6.01	7.22	7.22	7.86
†Horse Power (page 237) at Counter Shaft for 100 Feet Centers	1.2	1.6	2.3	2.9	4.3	6.9	11.0	15.5	21.2
Diameter of Foot Shaft—Inches	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	2 7/16	2 15/16	2 15/16	3 7/16
Diameter of Foot Pulley—Inches	16	16	16	16	20	20	24	24	28
Approx. Weights—Lbs.									
Terminals§	639	652	731	853	1187	1634	2435	2781	4446
Conveyor per Ft. Centers §	14.0	15.3	20.0	22.0	33.9	37.2	50.4	58.4	64.8
Guide Idlers per Set (page 243)	*	*	*	*	25.8	30.5	35.0	....	....

*Guide Idlers for these conveyors are included in weight of "Cnoveyor per Ft. Centers."

†In no case should separate motor drives be less than 1½ to 2 Horse Power.

§Terminals comprise Head, Counter and Foot Shafts, Bearings, Set Collars, Gear and Pinion; Head and Foot Pulleys with Belt to extend halfway around pulleys. Conveyor per Foot Centers comprise carrying and return idlers with the necessary belt.

For Erection Dimensions of above Conveyors, see page 266.

For Incline Conveyors, see page 253.

Horizontal Standard Belt Conveyors 101 to 200 Feet Centers

For 100 Pound Abrasive Materials Such as Stone

No. of Conveyor	385	386	387	388	390	393	396	441	442
Size of Material, Inches (page 234)									
Uniform Size or 70% to 80% of Unsized Material	2	2½	3	3½	4½	6	7½	9	10½
With Largest Pieces not to exceed 10% of all	3	4	5	6	8	11	14	17	20
Capacity, (pages 234-236)									
Tons per Hour	72	96	140	172	286	508	808	1202	1724
Speed in Feet per Minute	225	225	260	260	300	340	375	410	450
Belt, "Century" (page 247)									
Width—Inches	14	16	18	20	24	30	36	42	48
Ply, with ⅛" Rubber Cover	4	4	4	4	5	5	6	6	7
Spacing of Carriers									
Three Pulley Troughing—Inches (page 241)	60	60	54	54	....	....	....	....	....
Five Pulley Troughing—Inches (page 242)	....	....	....	....	48	48	42	42	42
Side Hanging Returns, Feet (page 244)	10	10	10	10	10	10	10	10	10
Head Shaft. At Discharge End									
Diameter of Shaft—Inches	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$	$3\frac{15}{16}$	$4\frac{7}{16}$
Diameter of Pulley—Inches	20	20	20	20	24	24	30	30	36
Diameter of Gear—Inches	23.89	23.89	23.89	23.89	32.00	32.00	36.78	36.78	36.78
Pitch of Gear—Inches	1	1	1	1	1½	1½	1¾	1¾	1¾
Face of Gear—Inches	2½	2½	2½	2½	4	4	5½	5½	5½
Counter Shaft									
Diameter of Shaft—Inches	$1\frac{7}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{11}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$
Rev. per Minute	202	202	234	234	215	241	225	246	226
Diameter of Pinion—Inches	5.12	5.12	5.12	5.12	7.22	7.22	7.86	7.86	7.86
†Horse Power (page 237) at Counter Shaft for 200 Feet Centers	2.4	3.2	4.6	5.8	8.7	13.9	22.1	31.0	42.4
Diameter of Foot Shaft—Inches	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{11}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$	$3\frac{15}{16}$
Diameter of Foot Pulley—Inches	16	16	16	16	20	20	24	24	28
Approx. Weights—Lbs.									
Terminals§	708	828	878	929	1562	1927	2831	3540	4782
Conveyor per Ft. Centers §	14.2	15.2	20.0	22.0	31.0	37.4	60.0	58.7	67.1
Guide Idlers per Set, (page 243)	*	*	*	*	25.8	30.5	35.0	....	....

*Guide Idlers for these conveyors are included in weight of "Conveyor per Ft. Centers."

†In no case should separate motor drives be less than 1½ to 2 Horse Power.

§Terminals comprise Head, Counter and Foot Shafts, Bearings, Set Collars, Gear and Pinion; Head and Foot Pulleys with Belt to extend halfway around pulleys. Conveyor per Foot Centers comprise carrying and return idlers with the necessary belt.

For Erection Dimensions of above Conveyors, see page 266.

For Incline Conveyors, see page 253.

Belt Conveyors

Horizontal Standard Belt Conveyors 201 to 300 Feet Centers

For 100 Pound Abrasive Materials Such as Stone

No. of Conveyor	397	398	399	400	402	405	408	443	444
Size of Material, Inches (page 234)									
Uniform Size or 70% to 80% of Unsized Material	2	2½	3	3½	4½	6	7½	9	10½
With Largest Pieces not to exceed 10% of all	3	4	5	6	8	11	14	17	20
Capacity, (pages 234-236)									
Tons per Hour	72	96	140	172	286	508	808	1202	1724
Speed in Feet per Minute	225	225	260	260	300	340	375	410	450
Belt, "Century" (page 247)									
Width—Inches	14	16	18	20	24	30	36	42	48
Ply, with ⅛" Rubber Cover	4	4	4	4	5	5	6	6	7
Spacing of Carriers									
Three Pulley Troughing—Inches (page 241)	60	60	54	54	....	....	....	....	....
Five Pulley Troughing—Inches (page 242)	....	....	....	....	48	48	42	42	42
Side Hanging Returns, Feet (page 244)	10	10	10	10	10	10	10	10	10
Head Shaft. At Discharge End									
Diameter of Shaft—Inches	1 15/16	2 7/16	2 15/16	2 15/16	2 15/16	3 7/16	3 15/16	4 7/16	4 15/16
Diameter of Pulley—Inches	20	20	20	20	24	24	30	30	36
Diameter of Gear—Inches	23.89	23.89	29.83	32.00	32.00	36.78	41.24	36.78	36.78
Pitch of Gear—Inches	1	1	1¼	1½	1½	1¾	1¾	1¾	1¾
Face of Gear—Inches	2½	2½	3	4	4	5½	6	5½	5½
Counter Shaft									
Diameter of Shaft—Inches	1 7/16	1 15/16	2 7/16	2 7/16	2 7/16	2 11/16	2 15/16	3 7/16	3 15/16
Rev. per Minute	202	202	250	223	213	254	237	246	226
Diameter of Pinion—Inches	5.12	5.12	6.01	7.22	7.22	7.86	8.42	7.86	7.86
†Horse Power (page 237) at Counter Shaft for 300 Feet Centers	3.5	4.7	7.0	8.7	13.1	20.8	33.1	46.5	63.6
Diameter of Foot Shaft—Inches	1 15/16	1 15/16	1 15/16	2 7/16	2 11/16	2 15/16	3 7/16	3 15/16	4 7/16
Diameter of Foot Pulley—Inches	16	16	16	16	20	20	24	24	28
Approx. Weights—Lbs.									
Terminals§	713	833	1084	1319	1815	2443	3593	4260	5701
Conveyor per Ft. Centers §	14.3	15.3	17.3	20.6	31.1	37.5	49.7	57.3	65.5
Guide Idlers per Set, (page 243)	*	*	*	*	25.8	30.5	35.0	....	....

*Guide Idlers for these conveyors are included in weight of "Conveyor per Ft. Centers."

†In no case should separate motor drives be less than 1½ to 2 Horse Power.

§Terminals comprise Head, Counter and Foot Shafts, Bearings, Set Collars, Gear and Pinion; Head and Foot Pulleys with Belt to extend halfway around pulleys. Conveyor per Foot Centers comprises carrying and return idlers with the necessary belt.

For Erection Dimensions of above Conveyors, see page 267.

For Incline Conveyors, see page 253.

Horizontal Standard Belt Conveyors 301 to 400 Feet Centers

For 100 Pound Abrasive Materials Such as Stone

No. of Conveyor	409	410	411	412	414	417	420	445	446
Size of Material, Inches (page 234)									
Uniform Size or 70% to 80% of Unsized Material	2	2½	3	3½	4½	6	7½	9	10½
With Largest Pieces not to exceed 10% of all	3	4	5	6	8	11	14	17	20
Capacity, (pages 234-236)									
Tons per Hour	72	96	140	172	286	508	808	1202	1724
Speed in Feet per Minute	225	225	260	260	300	340	375	410	450
Belt, "Century" (page 247)									
Width—Inches	14	16	18	20	24	30	36	42	48
Ply, with ⅛" Rubber Cover	4	4	4	4	5	5	6	6	7
Spacing of Carriers									
Three Pulley Troughing—Inches (page 241)	60	60	54	54	....	....	....	....	....
Five Pulley Troughing—Inches (page 242)	....	....	....	....	48	48	42	42	42
Side Hanging Returns, Feet (page 244)	10	10	10	10	10	10	10	10	10
Head Shaft. At Discharge End									
Diameter of Shaft—Inches	$2\frac{7}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$	$3\frac{7}{16}$	$4\frac{7}{16}$	$4\frac{15}{16}$	$5\frac{7}{16}$
Diameter of Pulley—Inches	20	20	20	20	24	24	30	30	36
Diameter of Gear—Inches	29.83	29.83	29.83	32.00	32.00	36.78	36.78	36.78	48.41
Pitch of Gear—Inches	1¼	1¼	1¼	1½	1½	1¾	1¾	1¾	2
Face of Gear—Inches	3	3	3	4	4	5½	5½	5½	6
Counter Shaft									
Diameter of Shaft—Inches	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{11}{16}$	$2\frac{11}{16}$	$3\frac{7}{16}$	$3\frac{15}{16}$	$4\frac{7}{16}$
Rev. per Minute	215	215	249	223	213	254	224	246	242
Diameter of Pinion—Inches	6.01	6.01	6.01	7.22	7.86	7.86	7.86	7.86	9.62
†Horse Power (page 237) at Counter Shaft for 400 Feet Centers	4.7	6.3	9.3	11.6	17.4	27.8	44.2	62.0	84.8
Diameter of Foot Shaft—Inches	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$	$3\frac{15}{16}$	$4\frac{7}{16}$	$4\frac{7}{16}$
Diameter of Foot Pulley—Inches	16	16	16	16	20	20	24	24	28
Approx. Weights—Lbs.									
Terminals§	848	1033	1146	1319	1993	2670	4011	4862	6420
Conveyor per Ft. Centers §	14.3	15.3	19.7	21.7	31.1	37.6	49.9	57.4	65.7
Guide Idlers per Set, (page 243)	*	*	*	*	25.8	30.5	35.0	....	....

*Guide Idlers for these conveyors are included in weight of "Conveyor per Ft. Centers."

†In no case should separate motor drives be less than 1½ to 2 Horse Power.

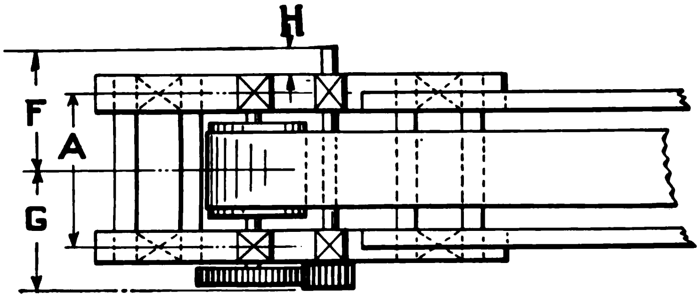
§Terminals comprise Head, Counter and Foot Shafts, Bearings, Set Collars, Gear and Pinion; Head and Foot Pulleys with Belt to extend halfway around pulleys. Conveyor per Foot Centers comprises carrying and return idlers with the necessary belt.

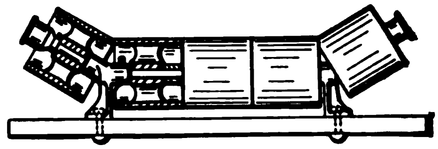
For Erection Dimensions of above Conveyors, see page 267.

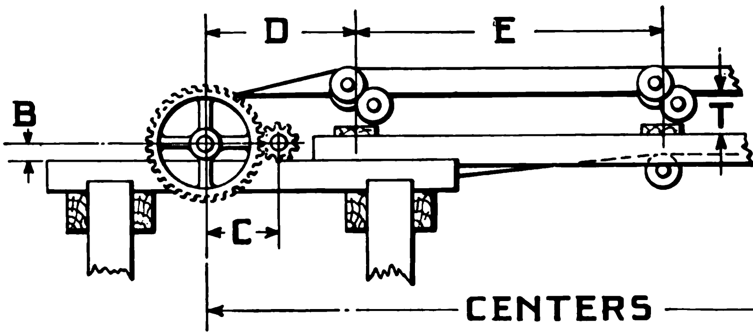
For Incline Conveyors, see page 253.

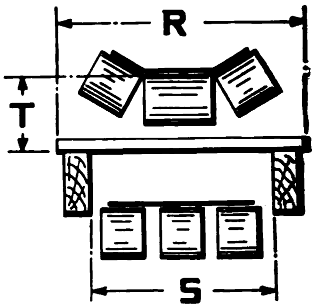
Belt Conveyors

Horizontal Standard Belt Conveyors





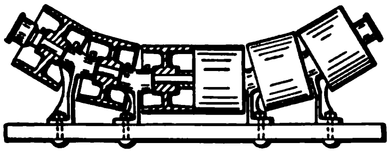


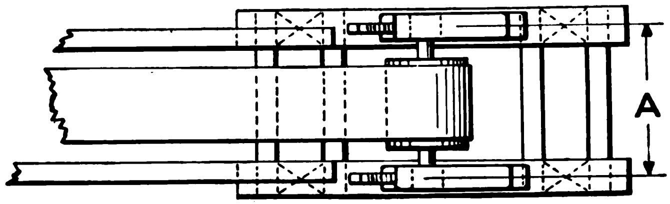


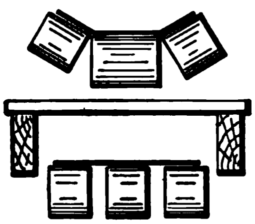
General Dimensions for 50 Pound Materials Such as Coal

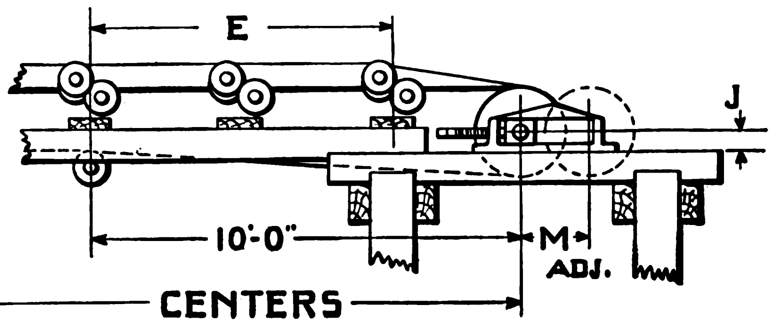
Width of Belt In.	No. of Conveyor	A In.	B In.	C In.	D In.	E In.	F In.	G In.	H In.	J In.	M In.	R In.	S In.	T In.
							0—100 FEET CENTERS.							
14	**301**	26	1 11/16	14 1/2	30	60	21 1/4	20 1/4	6	2 1/4	11 3/4	24	20	7 3/8
16	**302**	28	1 11/16	14 1/2	30	60	22 1/4	21 1/4	6	2 1/4	11 3/4	26	22	7 3/8
18	**303**	30	1 11/16	14 1/2	36	54	23 1/4	22 1/4	6	2 1/4	11 3/4	30	24	8 3/8
20	**304**	32	1 11/16	14 1/2	36	54	24 1/4	23 1/4	6	2 1/4	11 3/4	32	26	8 3/8
24	**306**	36	3 1/8	14 1/2	36	48	27	27	6	2 3/4	12	36	30	8 7/8
30	**309**	44	3 1/8	14 1/2	36	48	31	31	6	2 3/4	12	44	38	8 7/8
36	**312**	50	3 5/8	18	36	42	34 3/4	35 3/4	6	3 1/8	15	50	44	8 7/8
42	**421**	56	3 5/8	18	36	42	37 3/4	38 3/4	6	4	11	56	50	8 7/8
48	**422**	62	4	23 3/4	36	42	42 1/8	43 1/2	7	4	10 1/2	62	56	8 7/8
							101—200 FEET CENTERS.							
14	**313**	26	1 11/16	14 1/2	30	60	21 1/4	20 1/4	6	2 3/4	12	24	20	7 3/8
16	**314**	28	1 11/16	14 1/2	30	60	22 1/4	21 1/4	6	2 3/4	12	26	22	7 3/8
18	**315**	30	1 11/16	14 1/2	36	54	23 1/4	22 1/4	6	2 3/4	12	30	24	8 3/8
20	**316**	32	1 11/16	14 1/2	36	54	24 1/4	23 1/4	6	2 3/4	12	32	26	8 3/8
24	**318**	36	3 1/8	14 1/2	36	48	27	27	6	2 3/4	12	36	30	8 7/8
30	**321**	44	3 5/8	18	36	48	31 3/4	32 3/4	6	3 1/8	15	44	38	8 7/8
36	**324**	50	4	19 5/8	36	42	36 1/8	37 1/2	7	4	10 1/2	50	44	8 7/8
42	**426**	56	4	22 5/16	36	42	39 1/8	40 1/2	7	4	10 1/2	56	50	8 7/8
48	**427**	62	4 5/8	22 5/16	36	42	43 1/2	45 1/4	8	5	15 1/4	62	56	8 7/8
							201—300 FEET CENTERS.							
14	**325**	26	1 11/16	14 1/2	30	60	21 1/4	20 1/4	6	2 3/4	18	24	20	7 3/8
16	**326**	28	1 11/16	14 1/2	30	60	22 1/4	21 1/4	6	2 3/4	18	26	22	7 3/8
18	**327**	30	1 11/16	14 1/2	36	54	23 1/4	22 1/4	6	2 3/4	18	30	24	8 3/8
20	**328**	32	3 1/8	14 1/2	36	54	25	25	6	2 3/4	18	32	26	8 3/8
24	**330**	36	3 3/8	18	36	48	27 3/4	28 3/4	6	3 1/8	20	36	30	8 7/8
30	**333**	44	3 1/6	19 5/8	36	48	31 3/4	32 3/4	6	4	22 3/4	44	38	8 7/8
36	**336**	50	4	22 5/16	36	42	36 1/8	37 1/2	7	4	22 1/4	50	44	8 7/8
42	**428**	56	4 5/8	24 7/8	36	42	40 1/2	42 1/4	8	5 1/8	29 3/4	56	50	8 7/8
48	**429**	62	5 3/8	22 5/16	36	42	45 1/4	47	9	5 1/4	35 3/4	62	56	8 7/8

Horizontal Standard Belt Conveyors







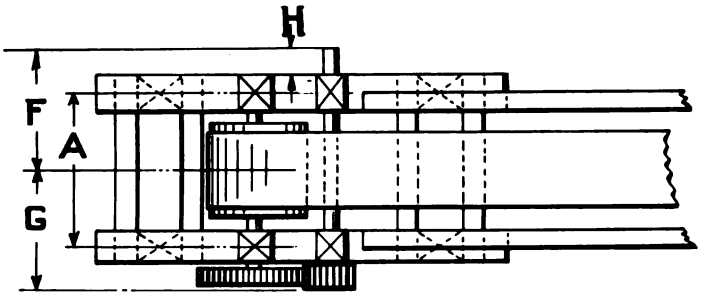


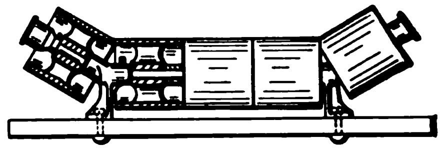
General Dimensions for 50 Pound Materials Such as Coal

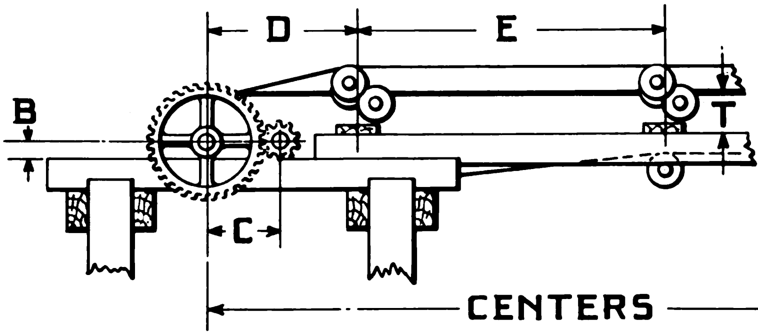
Width of Belt In.	No. of Conveyor	A In.	B In.	C In.	D In.	E In.	F In.	G In.	H In.	J In.	M In.	R In.	S In.	T In.
						301—400 FEET CENTERS.								
14	**337**	26	1 11/16	14 1/2	30	60	21 1/4	20 1/4	6	2 3/4	18	24	20	7 3/8
16	**338**	28	3 1/8	14 1/2	30	60	23	23	6	2 3/4	18	26	22	7 3/8
18	**339**	30	3 1/8	18	36	54	24	24	6	2 3/4	18	30	24	8 3/8
20	**340**	32	3 5/8	18	36	54	25 3/4	26 3/4	6	3 1/8	20	32	26	8 3/8
24	**342**	38	3 5/8	19 5/8	36	48	28 3/4	29 3/4	6	4	22 3/4	36	30	8 7/8
30	**345**	44	4	22 5/16	36	48	33 1/8	34 1/2	7	4	22 1/4	44	38	8 7/8
36	**348**	50	4 5/8	22 5/16	36	42	37 1/2	39 1/4	8	5 1/8	29 3/4	50	44	8 7/8
42	**430**	58	5 3/8	22 5/16	36	42	43 1/4	45	9	5 1/4	35 3/4	56	50	8 7/8
48	**431**	64	5 5/8	22 5/16	36	42	48	49 3/4	10	6 1/16	24 1/4	62	56	8 7/8
						401—500 FEET CENTERS.								
14	**349**	28	3 1/8	14 1/2	30	60	23	23	6	2 3/4	18	24	20	7 3/8
16	**350**	30	3 5/8	14 1/2	30	60	24 3/4	25 3/4	6	2 3/4	18	26	22	7 3/8
18	**351**	32	3 5/8	18	36	54	25 3/4	26 3/4	6	3 1/8	20	30	24	8 3/8
20	**352**	34	3 5/8	18	36	54	26 3/4	27 3/4	6	3 1/8	20	32	26	8 3/8
24	**354**	38	3 5/8	19 5/8	36	48	28 3/4	29 3/4	6	4	22 3/4	36	30	8 7/8
30	**357**	44	4	22 5/16	36	48	33 1/8	34 1/2	7	5 1/8	29 3/4	44	38	8 7/8
36	**360**	52	5 3/8	22 5/16	36	42	40 1/4	42	9	5 1/4	35 3/4	50	44	8 7/8
42	**432**	58	5 3/8	22 5/16	36	42	43 1/4	45	9	5 1/4	35 3/4	56	50	8 7/8
48	**433**	64	5 5/8	22 5/16	36	42	48 1/2	49 1/4	10	6 1/16	24 1/4	62	56	8 7/8
						501—600 FEET CENTERS.								
14	**361**	28	3 1/8	14 1/2	30	60	23	23	6	2 3/4	18	24	20	7 3/8
16	**362**	30	3 5/8	18	30	60	24 3/4	25 3/4	6	3 1/8	20	26	22	7 3/8
18	**363**	32	3 5/8	18	36	54	25 3/4	26 3/4	6	3 1/8	20	30	24	8 3/8
20	**364**	34	3 5/8	19 5/8	36	54	26 3/4	27 3/4	6	4	22 3/4	32	26	8 3/8
24	**366**	38	4	22 5/16	36	48	30 1/8	31 1/2	7	4	22 1/4	36	30	8 7/8
30	**369**	44	4 5/8	22 5/16	36	48	34 1/2	36 1/4	8	5 1/8	29 3/4	44	38	8 7/8
36	**372**	52	5 3/8	22 5/16	36	42	40 1/4	42	9	5 3/4	35 3/4	50	44	8 7/8
42	**434**	58	5 5/8	22 5/16	36	42	45 1/2	46 1/4	16	6 1/16	24 1/4	56	50	8 7/8
48	**435**	64	6 1/4	29	36	42	49 3/4	51 1/2	11	6 3/4	37 5/8	62	56	8 7/8

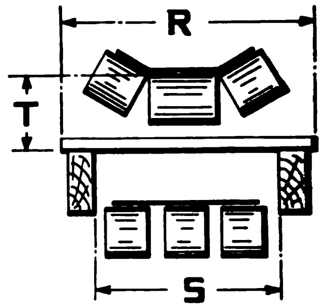
Belt Conveyors

Horizontal Standard Belt Conveyors





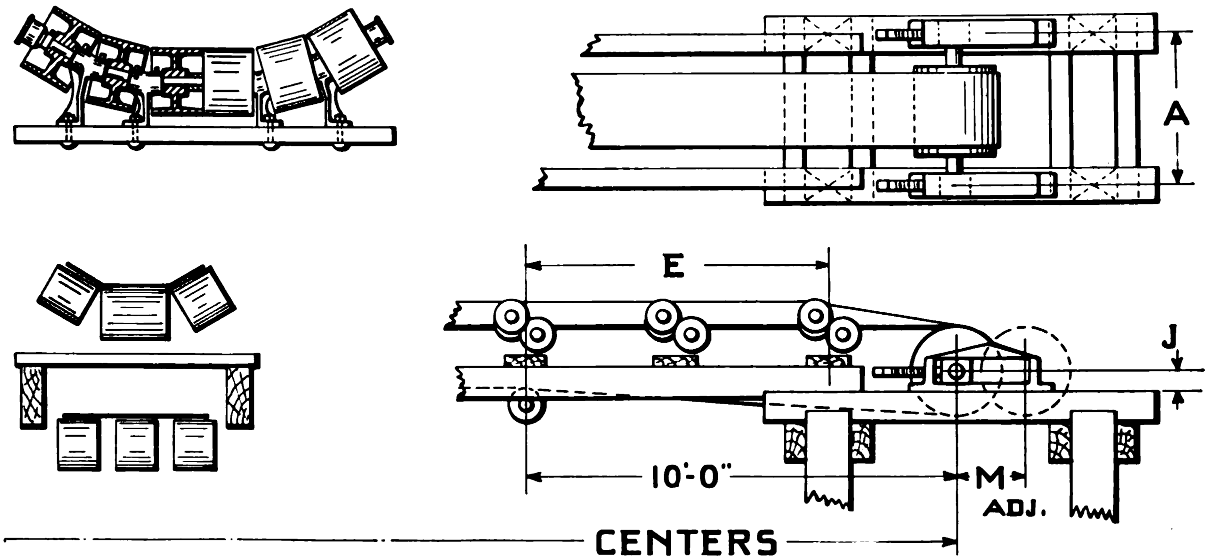




General Dimensions for 100 Pound Materials Such as Stone

Width of Belt In.	No. of Conveyor	A In.	B In.	C In.	D In.	E In.	F In.	G In.	H In.	J In.	M In.	R In.	S In.	T In.
							0—100 FEET CENTERS.							
14	**373**	26	1 11/16	14½	30	60	21¼	20¼	6	2¼	11¾	24	20	7⅜
16	**374**	28	1 11/16	14½	30	60	22¼	21¼	6	2¼	11¾	26	22	7⅜
18	**375**	30	1 11/16	14½	36	54	23¼	22¼	6	2¼	11¾	30	24	8⅜
20	**376**	32	1 11/16	14½	36	54	24¼	23¼	6	2¾	12	32	26	8⅜
24	**378**	36	3⅛	14½	36	48	27	27	6	2¾	12	36	30	8⅞
30	**381**	44	3⅝	18	36	48	31¾	32¾	6	3⅛	15	44	38	8⅞
36	**384**	50	3⅝	19⅝	36	42	34¾	35¾	6	4	10½	50	44	8⅞
42	**436**	56	4	19⅝	36	42	39⅛	40½	7	4	10½	56	50	8⅞
48	**437**	62	4⅝	22 5/16	36	42	43½	45¼	8	5	15¼	62	56	8⅞
							101—200 FEET CENTERS.							
14	**385**	26	1 11/16	14½	30	60	21¼	20¼	6	2¾	12	24	20	7⅜
16	**386**	28	3⅛	14½	30	60	23	23	6	2¾	12	26	22	7⅜
18	**387**	30	3⅛	14½	36	54	24	24	6	2¾	12	30	24	8⅜
20	**388**	32	3⅛	14½	36	54	25	25	6	2¾	12	32	26	8⅜
24	**390**	36	3⅝	19⅝	36	48	27¾	28¾	6	3⅛	15	36	30	8⅞
30	**393**	44	3⅝	19⅝	36	48	31¾	32¾	6	4	11	44	38	8⅞
36	**396**	50	4	22 5/16	36	42	36⅛	37½	7	4	10½	50	44	8⅞
42	**441**	56	4⅝	22 5/16	36	42	40½	42¼	8	5	15¼	56	50	8⅞
48	**442**	62	5⅜	22 5/16	36	42	46¼	48	9	5⅛	15¼	62	56	8⅞

Horizontal Standard Belt Conveyors



General Dimensions for 100 Pound Materials Such as Stone

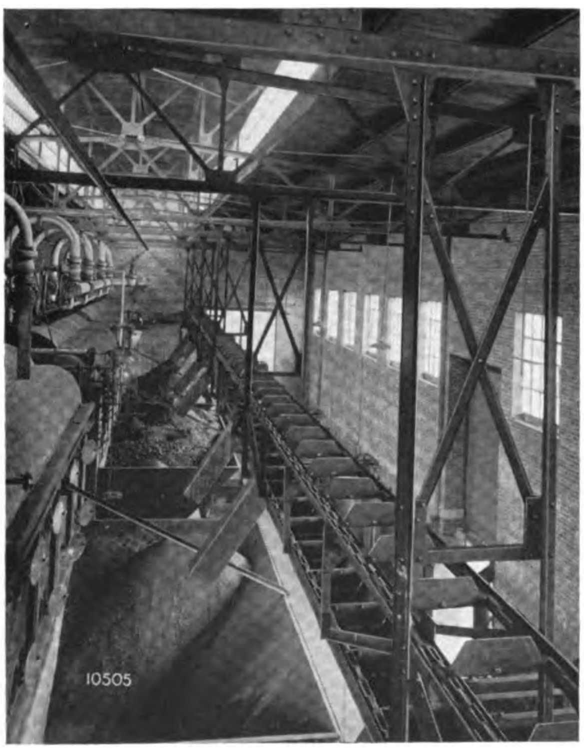
Width of Belt In.	No. of Conveyor	A In.	B In.	C In.	D In.	E In.	F In.	G In.	H In.	J In.	M In.	R In.	S In.	T In.
201—300 FEET CENTERS.														
14	**397**	26	1 11/16	14 1/2	30	60	21 1/4	20 1/4	6	2 3/4	18	24	20	7 3/8
16	**398**	28	3 1/8	14 1/2	30	60	23	23	6	2 3/4	18	26	22	7 3/8
18	**399**	30	3 5/8	18	36	54	24 3/4	25 3/4	6	2 3/4	18	30	24	8 3/8
20	**400**	32	3 5/8	19 5/8	36	54	25 3/4	26 3/4	6	3 1/8	20	32	26	8 3/8
24	**402**	36	3 5/8	19 5/8	36	48	27 3/4	28 3/4	6	4	22 3/4	36	30	8 7/8
30	**405**	44	4	22 5/16	36	48	33 1/8	34 1/2	7	4	22 1/4	44	38	8 7/8
36	**408**	50	4 5/8	24 7/8	36	42	37 1/2	39 1/2	8	5 1/8	29 3/4	50	44	8 7/8
42	**443**	58	5 3/8	22 5/16	36	42	43 1/4	45	9	5 1/4	35 3/4	56	50	8 7/8
48	**444**	64	5 3/8	22 5/16	36	42	48 1/2	49 1/4	10	6 1/16	24 1/4	62	56	8 7/8
301—400 FEET CENTERS.														
14	**409**	26	3 1/8	18	30	60	22	22	6	2 3/4	18	24	20	7 3/8
16	**410**	28	3 5/8	18	30	60	23 3/4	24 3/4	6	2 3/4	18	26	22	7 3/8
18	**411**	30	3 5/8	18	36	54	24 3/4	25 3/4	6	3 1/8	20	30	24	8 3/8
20	**412**	32	3 5/8	19 5/8	36	54	25 3/4	26 3/4	6	3 1/8	20	32	26	8 3/8
24	**414**	38	4	19 5/8	36	48	30 1/8	31 1/2	7	4	22 1/4	36	30	8 7/8
30	**417**	44	4	22 5/16	36	48	34 1/8	34 1/2	7	5 1/8	29 3/4	44	38	8 7/8
36	**420**	52	5 3/8	22 5/16	36	42	40	42	9	5 1/4	35 3/4	50	44	8 7/8
42	**445**	58	5 5/8	22 5/16	36	42	45	46	10	6 1/16	24 1/4	56	50	8 7/8
48	**446**	64	6 1/4	29	36	42	49 3/4	51 1/2	11	6 1/16	24 1/4	62	56	8 7/8

Standard Scraper Conveyors

Section 10

Scraper Conveyors

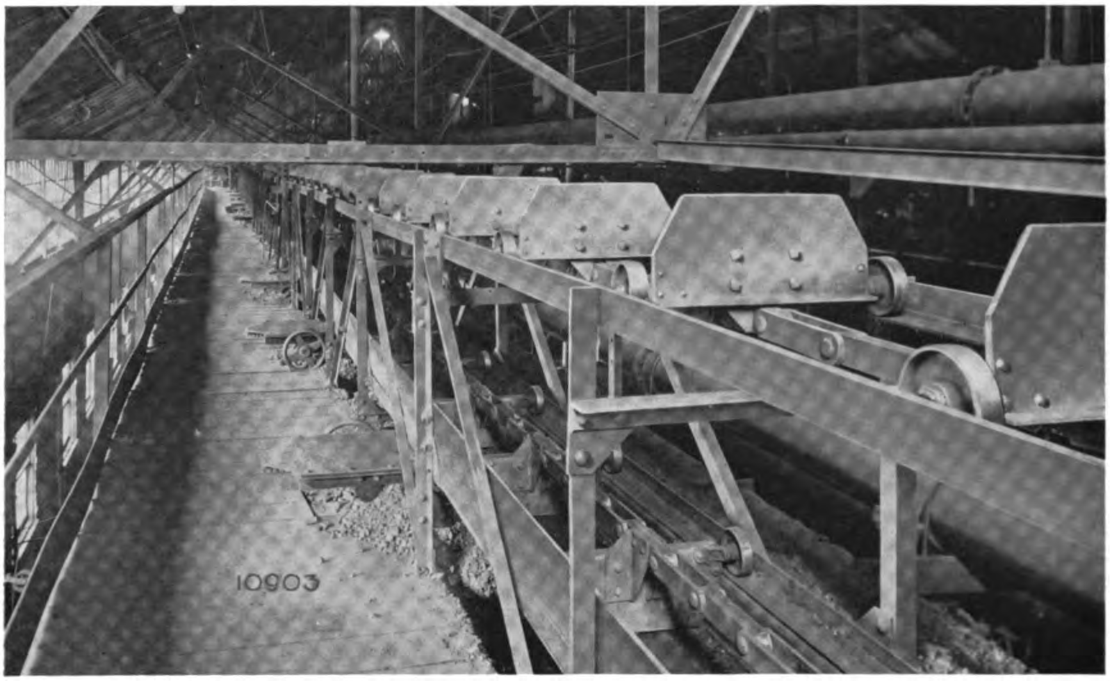
Inclined and Horizontal Scraper Conveyors handling coal to Power House. This combination makes possible the utilizing of an irregular property layout along railroad tracks.



A Double Strand Scraper Conveyor distributing coal to bunkers.

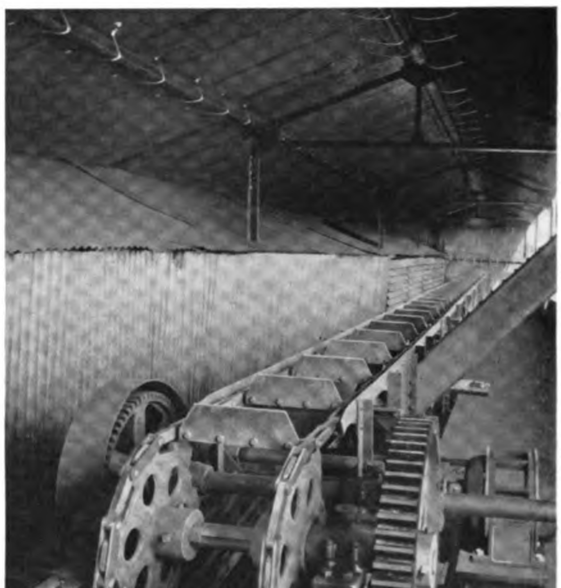
An Inclined Double Strand Scraper Conveyor for handling coal from track hopper to storage pile.

Scraper Conveyors



Jeffrey Scraper Conveyor made up with Steel Scrapers mounted upon rollers and propelled by a Single Strand of all steel vulcan type chain, has always proved its worth in a most satisfactory service wherever it has been installed for the handling of coal in boiler houses.

Scraper Conveyor with double strand of roller chain installed in a Power House for the handling of coal from track hopper to bunkers.



Double Strand Vulcan Chain Scraper Conveyor fed by Bucket Elevator handling coal in a large Steel Plant.

Scraper Conveyors

Retarding Scraper Conveyors

Jeffrey Retarding Scraper Conveyor handling large tonnages of coal in tipple, with comparatively small consumption of power and very little upkeep.

The largest sizes of Jeffrey Standard Scraper Conveyors are especially suited to handling run-of-mine coal, the average size of pieces ranging from 8 to 12 inch cubes, with maximum pieces about 16 inch. **For detailed information on Jeffrey Retarding Conveyors, see pages 649 to 659.**

Scraper Conveyors

Another field of application for the Jeffrey Scraper Conveyor is in the handling of bagasse or refuse sugar cane from crushing rolls, to feeders over furnaces.

A Jeffrey Double Strand Scraper Conveyor handling garbage in a large Disposal Plant. Considering the acid qualities of the garbage this conveyor has given a remarkable service in its handling of thousands of tons of garbage yearly.

The view at the left shows the discharge end of another Scraper Conveyor in a Garbage Disposal Plant delivering the digested garbage from the presses.

Scraper Conveyors

Some Important Points to assist you in Selecting a Jeffrey Standard Scraper Conveyor

THE Scraper Conveyor is made of both single and double strands of chains, according to the size of scraper. The single strand being limited to 18-inch maximum length of scrapers, while the double strands, although limited to no particular length of scrapers, seldom are called upon to take lengths greater than 36 inches.

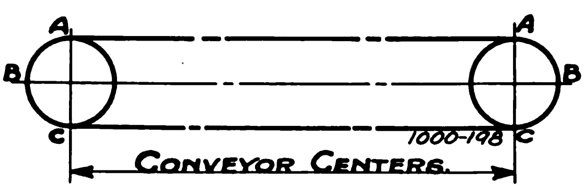
Simple construction a desirable feature

Single Strand Conveyors have the chain bolted to the top of the scrapers at their centers. Scrapers for this type are ordinarily made of either malleable iron with self-contained wearing surfaces or of steel plate with wearing blocks or roller attachments at their ends.

The Double Strand Conveyors have the chains bolted to the ends of the scrapers by means of extension attachments of the chains, or as in the Vulcan type of Chain, by means of long steel bars bolted to the scrapers at the top and bent out at the ends to form the side bars of the chains, see pages 290 and 314.

Have a Place in nearly every Industry

Both the Single and Double Strand Conveyors are designed to handle all kinds of loose products of the farm, manufacturing and mining industries, with their widest application being unquestionably given to the handling of coal and similar semi-abrasive loose materials. Note the wide range of application of scraper conveyors as illustrated in the preceding and the following pages.



Wide Range of Service from One Conveyor

Scraper Conveyors may be installed on the horizontal, on an incline, or as a combination in one conveyor of both horizontal and incline, or of two inclines, with the joining connection between the horizontal and incline or the two inclines being made in a curve of large radius. The angle of incline of a Scraper Conveyor either singly or in combination should not exceed 45 degrees and preferably not over 30 degrees to 35 degrees to the horizontal. The Standard Scraper Conveyors, as listed in the tables, are divided into four groups, based upon their length or centers.

For the Single Strand Conveyors, three types of chain, Vulcan, Detachable and Steel Link have been found to be most suitable and so have become the Jeffrey Standard. On the Double Strand Conveyors the same types of chain are used as on the Single Strand, with the addition of the Malleable Roller and Steel Thimble Roller types, this latter type having been found especially efficient in the handling of the larger capacities.

In addition to the foregoing Single and Double Strand Scrapers is the Drag Chain, which is essentially a Single Strand Scraper within the chain itself, the chain being sufficiently wide to form a scraper.

Total Shipping Weights easily figured from Tables

The "Weight of Terminals" given in the tables includes shafts, bearings, collars, sprockets and gears, with chain and flights half way around the sprockets as shown by the arcs A B C in the sketch at the left.

How to Pick a Jeffrey Scraper Conveyor to Meet Your Conditions

THE table below is an Index and Table of Capacities for all Jeffrey Standard Scraper Conveyors with Wood Supports. The Index to Steel Supports is given on page 276. From these tables the customer may easily find the right Conveyor to suit his needs. Jeffrey Conveyors are built under four different groups of lengths or "centers." The 1st group covers all conveyors up to 50 ft. in length, the 2nd from 51 to 100 ft., the 3rd from 101 to 150 ft. and the last group covering lengths from 151 to 200 ft.

In ordering a Conveyor you must know the "Average Size Pieces to be handled," "Maximum Size Pieces," the "Capacity in Tons per hour," and the length your Conveyor is to carry the material. For example, say the "Average Size of Material" is 3 inch pieces, the "Maximum Size" 5 inch pieces, the "Capacity" requirement 70 tons per hour, and the length 125 ft. Under the first and second columns you will see that six groups of Conveyors will handle these sizes, but coming to the 3rd column you find that only 4 of these groups of Conveyors have a capacity of 70 tons per hour. Your Conveyor must

(Continued on following page)

Index to Conveyors Built on Wood Supports

Average Size Material to be Handled	Maximum Size Pieces	Capacity in Tons* per Hour Horizontal	Size of Scraper	0 to 50 ft. Centers		51 to 100 ft. Centers		101 to 150 ft. Centers		151 to 200 ft. Centers	
				Conveyor No.	Page No.	Conveyor No.	Page No.	Conveyor No.	Page No.	Conveyor No.	Page No.
Single Strand Chain with Malleable Iron Scrapers											
1½	3	42	10x 5	2924	283	2929	283	2934	283		
2	4	50	12x 5	2925	283	2930	283	2935	283		
2	4	50	12x 5	2926	283	2931	283				
3	5	63	15x 5	2927	283	2932	283	2936	283		
3	5	63	15x 5	2928	283	2933	283	2937	283		
Single Strand Chain with Roller Attachments											
1¾	3½	48	15x 7	2938	287	2942	287	2946	287	2950	287
1¾	3½	48	15x 7	2939	287	2943	287	2947	287	2951	287
3	5	70	18x 8	2940	287	2944	287	2948	287	2952	287
3	5	70	18x 8	2941	287	2945	287	2949	287		
Single Strand Chain with Wearing Blocks											
1¾	3½	48	15x 7	3300	285	3304	285	3308	285	3312	285
1¾	3½	48	15x 7	3301	285	3305	285	3309	285	3313	285
3	5	70	18x 8	3302	285	3306	285	3310	285	3314	285
3	5	70	18x 8	3303	285	3307	285	3311	285		
Double Strand Malleable Roller Chain											
6	9	60	18x 6	2953	289	2956	289	2959	289	2962	289
6	9	60	18x 6	2954	289	2957	289	2960	289	2963	289
8	12	112	24x 8	2955	289	2958	289	2961	289	2964	289
Double Strand Vulcan Chain											
6	9	60	18x 6	2965	291	2968	291	2971	291	2973	291
8	12	112	24x 8	2966	291	2969	291	2972	291		
Double Strand Steel Link Chain											
10	14	195	30x10	2974	293	2976	293	2978	293	2980	293
12	16	241	36x10	2975	293	2977	293	2979	293	2981	293
Double Strand Vulcan Chain with Shallow Steel Scrapers											
12	16	150	30x 6	2967	295	2970	295				
Double Strand Steel Thimble Roller Chain											
8	12	92	24x 8	2982	297	2985	297	2988	297	2991	297
10	14	167	30x10	2983	297	2986	297	2989	297	2992	297
12	16	238	36x12	2984	297	2987	297	2990	297	2993	297

*50 lbs. per cu. ft. (For Conveyors on Steel Supports—see page 276.)

Scraper Conveyors

be 125 ft. long so you go over to the column "101 to 150 ft. Centers" and we find Conveyors No. 2948 and 2949, details of which are given in table on page 287, also No. 3310 and 3311 given in table on page 285, will take care of your requirements. The first mentioned are fitted with roller attachments, the latter with wearing blocks as shown in table on page 275 for Wood Supports.

Suppose your "Average" was 1¾ inch pieces, your "Maximum" 9 inch pieces and your "Capacity" was "40 tons per hour", you would have a choice of three different Conveyors, using double strands of Chain, Nos. 2959 and 2960 in table on page 289 or No. 2971 given in table on page 291.

By consulting the tables it will be noted that the capacities of the Conveyors No. 2959 and 2960, which are capable of handling these maximum size pieces, are far in excess of the requirements. In such cases it is the size pieces rather than the capacity which governs the selection of Conveyor. Under these conditions the speed of the conveyor may be reduced in direct proportion, thereby materially increasing the life of the Conveyor.

Index to Conveyors Built on Steel Supports

Average Size Material to be Handled	Maximum Size Pieces	Capacity in Tons* per Hour Horizontal	Size of Scraper	0 to 50 ft. Centers		51 to 100 ft. Centers		101 to 150 ft. Centers		151 to 200 ft. Centers	
				Conveyor No.	Page No.	Conveyor No.	Page No.	Conveyor No.	Page No.	Conveyor No.	Page No.
Single Strand Chain with Malleable Iron Scrapers											
1½	3	42	10x 5	2994	307	2999	307	3004	307		
2	4	50	12x 5	2995	307	3000	307	3005	307		
2	4	50	12x 5	2996	307	3001	307	3006	307		
3	5	63	15x 5	2997	307	3002	307	3007	307		
3	5	63	15x 5	2998	307	3003	307				
Single Strand Chain with Roller Attachments											
1¾	3½	48	15x 7	3008	311	3012	311	3139	311	3143	311
1¾	3½	48	15x 7	3009	311	3013	311	3140	311	3144	311
3	5	70	18x 8	3010	311	3137	311	3141	311	3145	311
3	5	70	18x 8	3011	311	3138	311	3142	311		
Single Strand Chain with Wearing Blocks											
1¾	3½	48	15x 7	3315	309	3319	309	3323	309	3327	309
1¾	3½	48	15x 7	3316	309	3320	309	3324	309	3328	309
3	5	70	18x 8	3317	309	3321	309	3325	309	3329	309
3	5	70	18x 8	3318	309	3322	309	3326	309		
Double Strand Malleable Roller Chain											
6	9	60	18x 6	3146	313	3149	313	3152	313	3155	313
6	9	60	18x 6	3147	313	3150	313	3153	313	3156	313
8	12	112	24x 8	3148	313	3151	313	3154	313	3157	313
Double Strand Vulcan Chain											
6	9	60	18x 6	3158	315	3161	315	3164	315	3166	315
8	12	112	24x 8	3159	315	3162	315	3165	315		
Double Strand Steel Link Chain											
10	14	195	30x10	3167	317	3169	317	3171	317	3173	317
12	16	241	36x10	3168	317	3170	317	3172	317	3174	317
Double Strand Vulcan Chain with Shallow Scraper											
12	16	150	30x 6	3160	319	3163	319				
Double Strand Steel Thimble Roller Chain											
8	12	92	24x 8	3175	321	3178	321	3181	321	3184	321
10	14	167	30x10	3176	321	3179	321	3182	321	3185	321
12	16	238	36x10	3177	321	3180	321	3183	321	3186	321

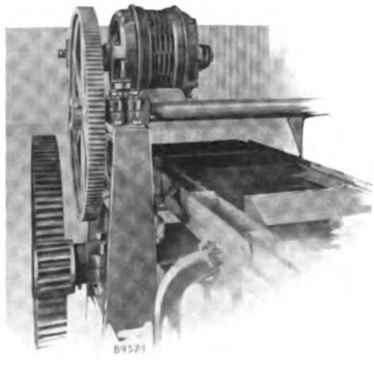
*50 lbs. per cu. ft. (For Conveyors on Wood Supports—see page 275.)

Elements Affecting Capacities and Horsepower

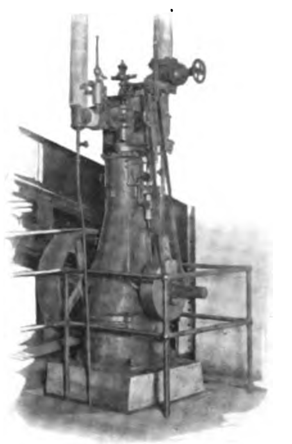
THE capacities of the Jeffrey Standard Scraper Conveyors given in the tables on the preceding pages, covering material weighing 50 lbs. per cu. ft. are figured on the assumption that the troughs are 80% level full, and of a fairly uniform, continuous flow throughout the one hour period of time. If the flow to the conveyor be of the proper rate per hour, but intermittent, it is obvious that the amount of coal delivered in one hour will be less than that given in the tables. On the other hand if the amount of coal as listed is delivered by the conveyor, but received by it intermittently, the amount of coal in transit on the Conveyor at certain periods of its operation may be beyond the nominal working strength of chains, shafting, gears and possibly beyond the overload rating of the motor. In other words the greatest service from a Scraper Conveyor at a minimum cost is obtained when a fairly uniform flow of material to the Scraper can be assured. Under intermittent loading conditions, where maximum capacity is desired, a Jeffrey Feeding Device helps to secure this uniform feed.

Determining Capacities for Incline Scraper Conveyors.

The capacity of any conveyor on a 15 degree slope equals 54 per cent of the Horizontal rating in the tables; on a 30 degree slope it will be 39% and on a 45 degree slope 33%. Thus the capacity for the Scraper Conveyor upon an incline may be readily estimated or selected direct from the Tables starting on page 283. Where a capacity is listed as "zero," the safe working strength of the chain has been exceeded for the "Centers" of Conveyor at the head of the Table, and a heavier equipment must be selected.



When the capacity of a combination Horizontal and Incline Conveyor is desired be sure to use the capacity rating given in the Tables for the Incline.



Size of shafting and gears specified should not be changed, if the capacity is lower than that rated, as a full capacity rating may be had for a short period of time for which the shafting, gears, etc., listed would be required, especially when a feeding device is not used to prevent accidental flooding of the conveyor.

Proper Size Motors Safeguard To Shut Downs.

It is very important when considering the size of Motor or Engine necessary to drive a Scraper Conveyor that the figures given in the Tables under the "Centers" required be properly used. It will be noted that the figures given in the Tables are listed as "Horsepower at Countershaft." This is the Countershaft shown in the line drawings of the Conveyors on pages 299 to 305 and 322 to 328, having driving extensions indicated by the Dimension X. The Horsepower rating should

Scraper Conveyors

ordinarily be increased 10% for each speed reduction of gears or belting between this Countershaft and the Motor or Engine. For example, if the "Horsepower at Countershaft" is given as 11.4 and one extra set of gears and a belt be used to connect the Motor, add 2 x 10% or 20%, making 13.6 Horsepower, or purchase a Motor of 15 H. P. listed rating. In this connection it is best to use not less than a 3 H. P. Motor for motors figuring less than 3 Horsepower, and not less than a Motor of 5 H. P. rating for motors figuring from 3 to 5 Horsepower.

This latter precaution is due to the fact that interferences to the operation of any Scraper Conveyor are usually fixed as to kind and therefore play a greater part to the possible stoppage of a small conveyor than a large one, such as the wedging action of a small piece of coal, tramp iron, sticks of wood, etc.

In any case the extra cost of a larger size Motor or Engine than actually required is one of the best investments as a safeguard to the continuous operation of your plant, especially at those times when there is a heavy drop in your steam or electric lines and the continuous operation of your Scraper Conveyor is one of the things upon which you are dependent to supply fuel to keep up that line.

Where the "Maximum Size Pieces" rather than the "Capacity" is the controlling element in the selection of a Conveyor, as noted at top of page 276, the standard speed of 100 ft. per minute for the Conveyor may be reduced sufficiently to just meet the smaller capacity, therefore reducing the Horsepower required proportionately to the reduction of speed.

Valves within Easy Control of Operator Save Time
Better Distribution of Material Assured.

SLIDE Valves placed at intervals in the bottom of Jeffrey Scraper Conveyor troughs permit delivery of materials to the most desirable points for proper use. direct from the Scraper Conveyor to the Boilers, when the bunkers are running empty or the daily supply of coal is reduced to an amount just sufficient to meet the requirements.

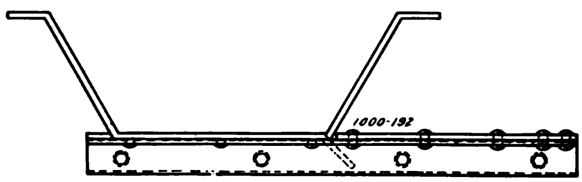


Fig. 1. Plain Hand Slide Valve.

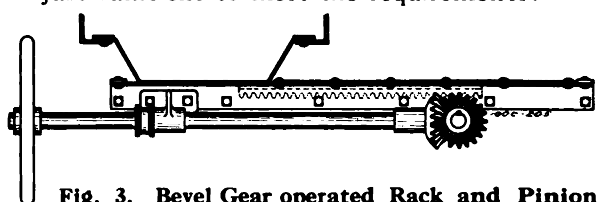


Fig. 3. Bevel Gear operated Rack and Pinion Valve, horizontal operating shaft.

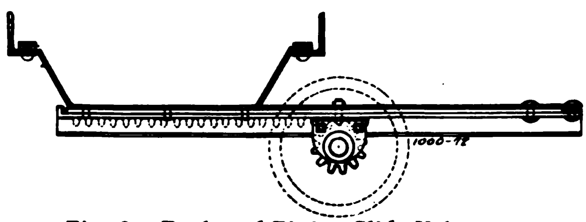


Fig. 2. Rack and Pinion Slide Valve.

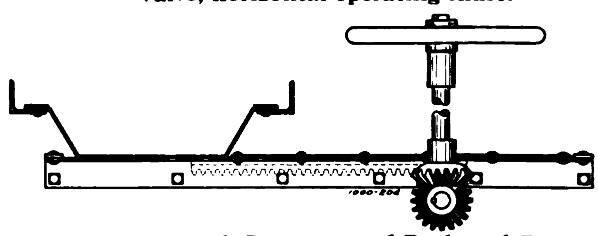


Fig. 4. Bevel Gear operated Rack and Pinion Valve, vertical operating Shaft.

For example, the ideal spacing of valves over a coal bunker in front of boilers is sufficiently close together to satisfactorily fill the storage and at the same time be over each bunker spout outlet to the stoker hoppers below, thereby insuring a flow of coal

From wide experience Jeffrey Slide Valves are designed to pull at right angles to the trough with the slide guides on each side of the valves constructed so as to permit of no sticking or wedging action as is common with many slide valves. Further, Jeffrey

Valves are equipped with three different types of control, namely, the Plain Slide Type, Fig. 1; the Rack and Pinion Type, Fig. 2; and the Bevel Gear Operated Type, Figs. 3 and 4. In Fig. 1 the valve is operated direct by a hand hold attached to the valve, as may be readily noted from the illustration at foot of the opposite page, while Fig. 2 is controlled direct by hand wheel or by sheave and hand chain extending down to operator. In Figs. 3 and 4 a greater range of control of the rack and pinion type is effected thru the added use of bevel gears. These gears permit the final control shaft to have its hand wheel or sheave parallel to the side of the Scraper Conveyor, thereby forming no obstruction to walkway. This control shaft also may be extended upward along side of the walkway, with the operating hand wheel horizontal and waist high for very easy operation or it may be extended straight down or at an angle dependent upon the most convenient point for operation.

The Plain Slide Type of Valve can be used on any Standard Scraper but is ordinarily limited to Conveyors having Scrapers not over 24 inches long—the only exception to that rule, in this book, being the shallow 30-inch scraper on pages 294 and 318. Valves Figures 2, 3, and 4, also may be furnished with any Standard Scraper Conveyor, but are ordinarily not used on Conveyors, having Scrapers smaller than 15 inches wide by 7 inches deep.

In this whole matter of valves, it is to be noted that when a choice of valves is not expressed by the Purchaser, in his choice of a Scraper Conveyor, Jeffrey Engineers will select that type of valve and spacing, which in their judgment is best fitted to the Purchaser's statements or sketches of his requirements.

Selecting Conveyors of Irregular Contour from Tables

UP to this point the Scraper Conveyor has been treated as wholly in the horizontal or wholly upon an incline, and as such may be readily selected direct from the Tables.

The greater number of all Scrapers are thus installed, but many of the most profitable applications of the Scraper Conveyor are combinations of both the horizontal and incline in as much as such combinations usually take the place of two or more separate units and at a much less initial cost and upkeep, see illustrations upon pages 270, 271, 288 and 290.

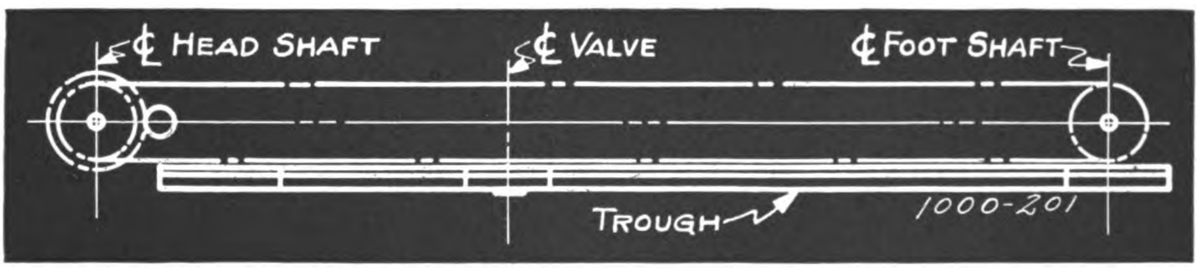


Fig. 5. Horizontal Conveyor for along ground or over storage bins.

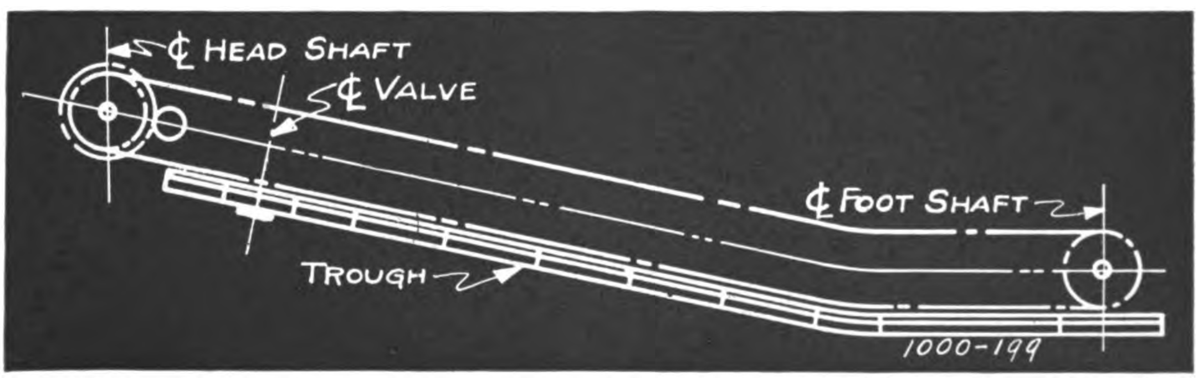


Fig. 6. Combination Conveyor, horizontal receiving section and slope to pile.

Scraper Conveyors

Selecting Conveyors of Irregular Contour from Tables (Cont'd)

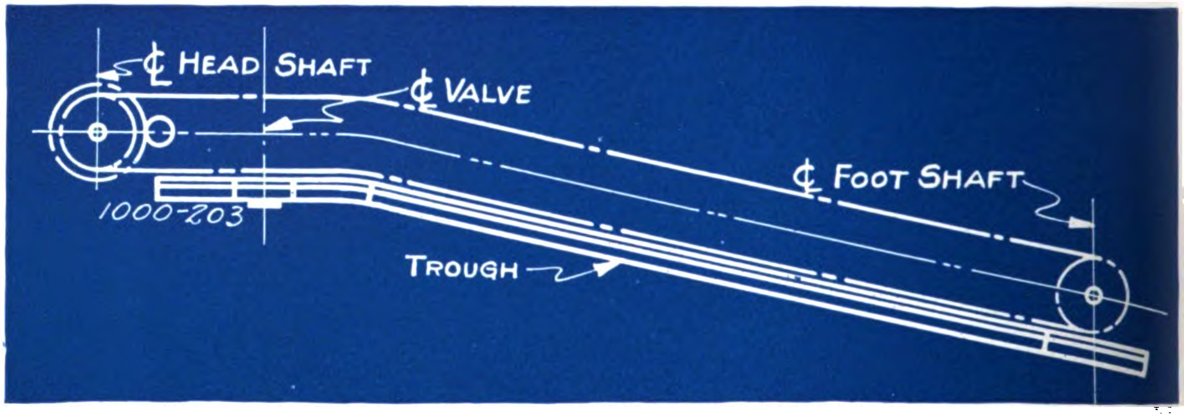


Fig. 7. Combination Conveyor, up slope from receiving hopper and over bins.

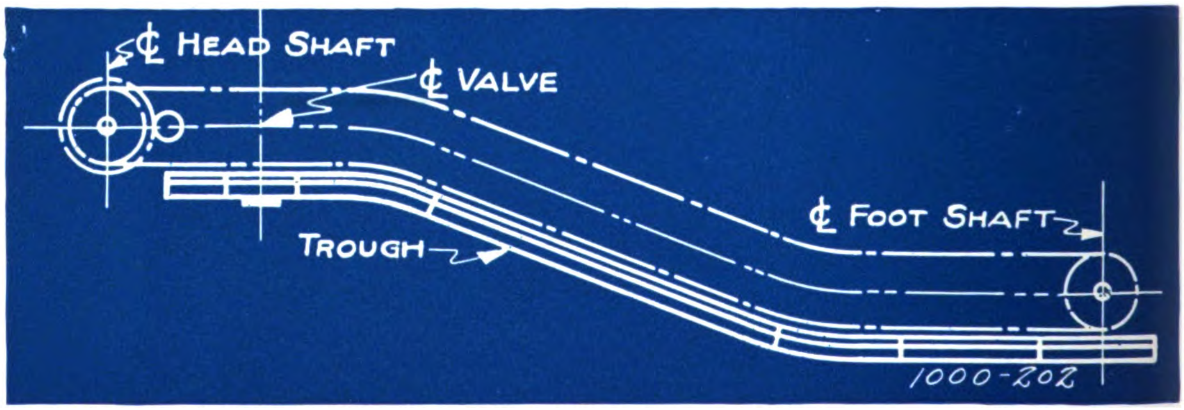


Fig. 8. Combination Conveyor, receiving section up slope and over storage.

TO select from the Tables a Scraper Conveyor of sufficient strength of parts to meet the conditions of a problem requiring a combination of horizontal and incline proceed as follows: Assume our problem is to handle 60 Tons per hour of bituminous coal of 6-inch "Average Size Material" and 12-inch "Maximum Size Pieces," 40 feet up a 30 degree incline and 96 feet horizontal over a bin storage, and to be erected upon "Wood Supports."

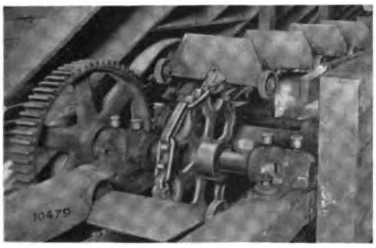
Consulting "Index to Conveyors," page 275, we find that the 12-inch "Maximum Size Pieces" control the choice of the smallest Conveyors, which may be used and Tables for which are given on pages 289, 291 and 297. Examining these pages we find 44 tons to be the largest capacity up 30 degree slope on pages 289 and 291 with 93 Tons the limit on page 297.

THE Scraper Conveyor required is therefore on page 297. The next step is to find those centers of horizontal conveyors as given at the top of the Tables which correspond to the combination of 96 feet horizontal and 40 feet incline. To do this we reduce complicated figuring to the following simple formula: $(.75H) + (B \times J) = L$, where H is the horizontal length, J the inclined length, and L equivalent length of Conveyor for strength, while B is 1.5 for Scraper Conveyors having chains sliding, 1.8 for Malleable Roller Chains and 2.0 for Steel Thimble Roller Chains or Single Strand Conveyors with Scrapers fitted with rollers.

Substituting in this formula for page 297, we have (.75 of 96) + (2.0 of 40) = 152 feet centers, that is to say Conveyor No. 2992 listed for 65 Tons on 30 degree incline and ordered 136 ft. centers will completely fill our requirements.

Large Curves Reduce Wear and Save Power

AT this point it is to be noted that it is only Scraper Conveyors of the double strand type which can be used to the best advantage in combination of horizontal and inclines.



The runways which support the chains on either side of such Scrapers when used in conjunction with hold-down guides serve to keep the scrapers down into place as the scrapers pass around curves from horizontal to incline or vice versa. Such curves in good practice should ordinarily have a radius of curvature to the centers of the chains of not less than one foot for each inch of chain pitch. That is to say a six foot radius for a six inch pitch chain, eight foot for eight inches, twelve foot for twelve inches, etc. As it is quite obvious, however, that the larger the curve radius the less wear there will be on the chains and guides and also the less power there will be consumed due to reduced friction, it should always be the purpose to make curves as large as possible to average maximum inclines of 30 to 40 degrees, being limited only by local conditions or by the placing of valves. Valves should always be located in straight rather than curved sections of a scraper trough.

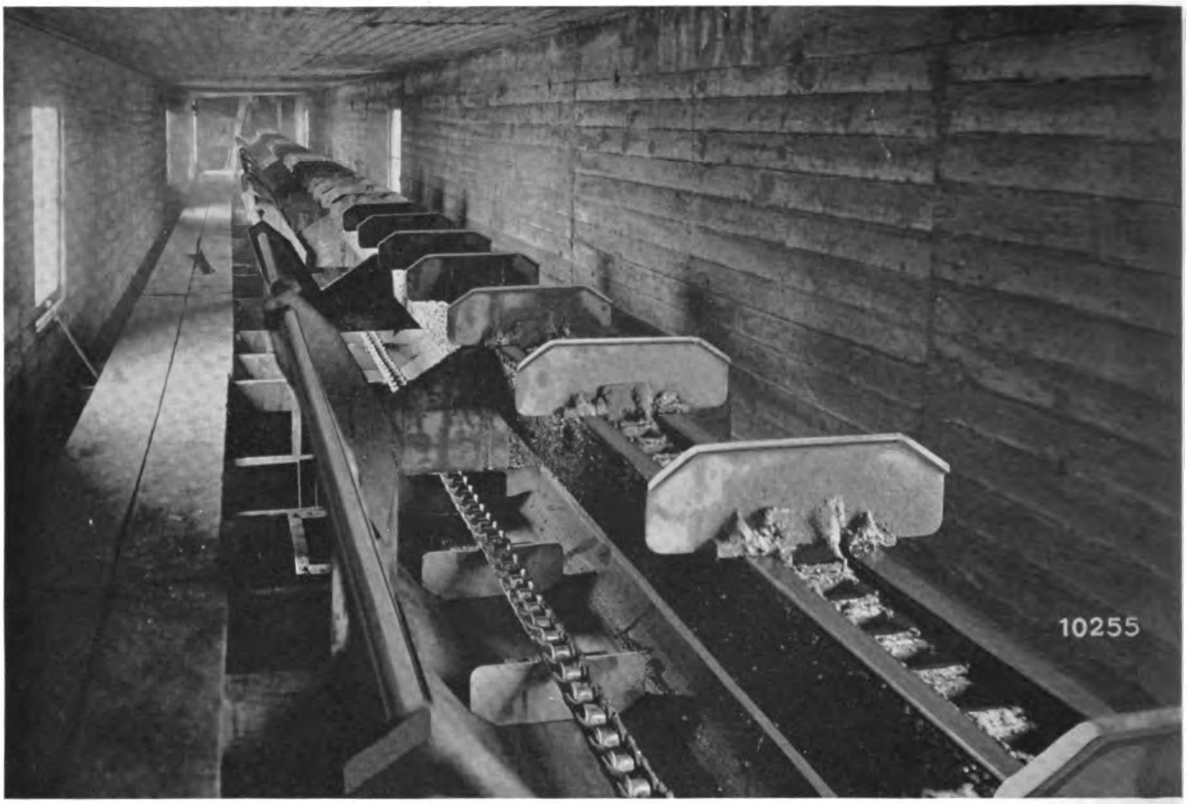
Ordering a Jeffrey Scraper Conveyor to Suit Your Requirements.

A Standard Conveyor for Nearly Every Need

THE instructions on the preceding pages in connection with a careful inspection of this subject will enable you to specify to us the Number and Length in Feet Centers of your choice of a Jeffrey Standard Scraper Conveyor. This is not to relieve us of any final responsibility in the matter, but that you in the process of making a selection may be able to more clearly appreciate the importance of indicating to us the "Average" and "Maximum" size pieces, exact nature and tons per hour of material to be handled, position of valves, etc., and further to enable you to more readily embody in a rough sketch to us the local conditions which the conveyor will have to meet—conditions which otherwise might have escaped your attention.

A Jeffrey Standard Scraper Conveyor as a Unit consists of the following general items: (a) Sufficient chain and scrapers complete for the carrying and return side to meet the feet centers required and to pass around the Head and Foot Terminals. (b) Head and Foot Terminals—machinery parts of sprockets, gears, shafting, bearings, safety collars, keys, etc. as indicated by line drawings exclusive of any wood or steel supports and holding-down bolts. (c) Conveying Trough equal in length to Centers of Conveyor exclusive of valves. Valves are extra. (d) Carrying and Return Flat Bar Trackage as indicated by line drawings with screws for Wood Supports and bolts for Steel Supports. (For Specifications of Ashes Drag Scraper Conveyors see page 331.)

Scraper Conveyors



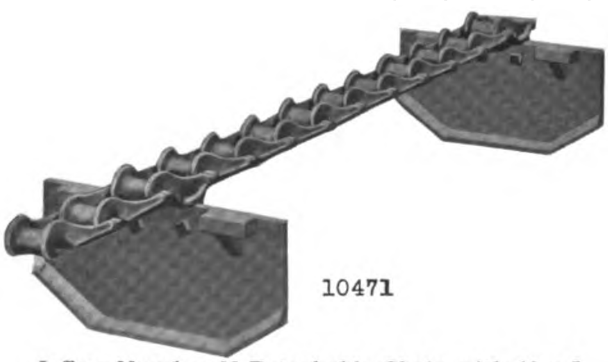
Here a small Jeffrey Scraper Conveyor mounted on wood supports is especially adapted for the distribution of coal into bins or bunkers for many industries where the capacity requirements are within the limits given in the table on the opposite page.

A Light and Durable Conveyor for Small Coal

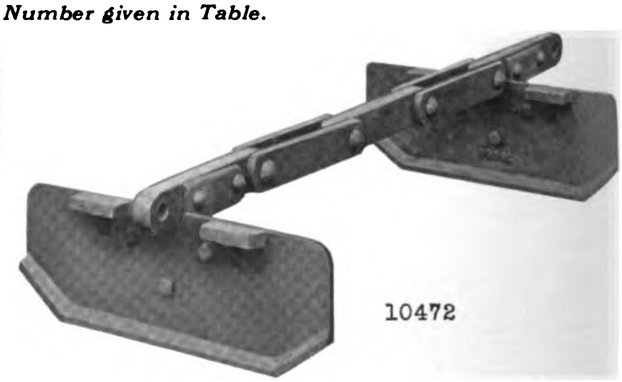
THE capacity range of these Conveyors is from 42 to 63 tons per hour, handling pieces approximately 1½ to 3 inch cubes. The outstanding feature of the design is its simplicity; the scrapers dragging in the trough with the material handled. Note the re-enforced edges of the scrapers for long service.

Either Number 88 Jeffrey Detachable Malleable Chain with 960 pounds working strength or 103 Jeffrey Detachable Malleable with 1600 pounds working strength, or 526 All-Steel Vulcan Chain with 1640 pounds working strength, fitted with Malleable Scrapers can be used as specified in the table on the opposite page.

Specify Conveyor by Number given in Table.



Jeffrey Number 88 Detachable Chain with 10 x 5 or 12 x 5 inch malleable scrapers spaced every 26 inches or 103 Detachable with 15 x 5 inch malleable scrapers spaced every 24 inches.



Jeffrey Number 526 Vulcan Steel Chain with 12 x 5 or 15 x 5 inch malleable scrapers spaced every 24 inches.

Scraper Conveyors

Specifications of Jeffrey Standard Scraper Conveyors Using Single Strand Detachable and Vulcan Chain with Malleable Scrapers

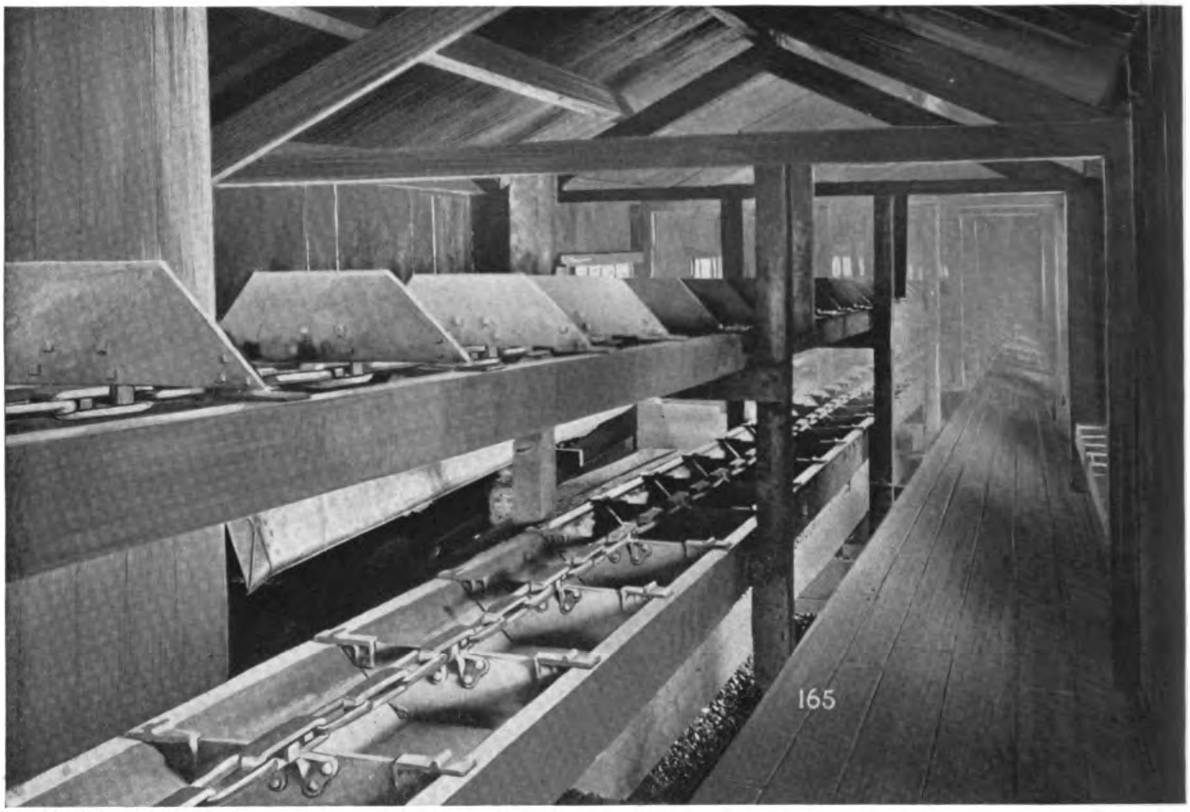
Wood Supports—*For Steel Supports see page 307.*

Length of Conveyor	0 to 50 ft. Centers					51 to 100 ft. Centers					101 to 150 ft. Centers			
No. of Conveyor	**2924**	**2925**	**2926**	**2927**	**2928**	**2929**	**2930**	**2931**	**2932**	**2933**	**2934**	**2935**	**2936**	**2937**
Size of Material—Inches														
Average size of Material to be handled	1½	2	2	3	3	1½	2	2	3	3	1½	2	3	3
Maximum size; not to exceed 10% of whole	3	4	4	5	5	3	4	4	5	5	3	4	5	5
Capacity—In tons per hr.														
Horizontal	42	50	50	63	63	42	50	50	63	63	42	50	63	63
15° Incline	23	27	27	33	33	23	27	27	33	33	0	27	33	0
30° Incline	16	20	20	24	24	16	20	20	24	24	0	20	0	0
45° Incline	14	17	17	20	20	14	17	17	20	20	0	0	0	0
Size Scraper—Inches														
Length	10	12	12	15	15	10	12	12	15	15	10	12	15	15
Depth	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Mall. Iron Pattern No.	28026	27898	27898	28656	28656	28026	27898	27898	28656	28656	28026	27898	28656	28656
Spacing—Inches	26	26	24	24.56	24	26	26	24	24.56	24	26	24	24.56	24
Chain														
Number and Style	88J	88J	526V	103J	526V	88J	88J	526V	103J	526V	88J	526V	103J	526V
Pitch—Inches	2.6	2.6	6.0	3.07	6.0	2.6	2.6	6.0	3.07	6.0	2.6	6.0	3.07	6.0
Attachments	F-2	F-2	A½	F-2	A½	F-2	F-2	A½	F-2	A½	F-2	A½	F-2	A½
Working Strength—Lbs.	960	960	1640	1600	1640	960	960	1640	1600	1640	960	1640	1600	1640
H. P. At Countershaft*	1.3	1.5	1.8	1.9	2.1	2.6	3.0	3.6	3.8	4.2	3.9	5.3	5.8	6.2
Head Shaft														
Diameter—Inches	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16	2 7/16	2 15/16	2 15/16	2 15/16
Rev. per Min.	16⅔	16⅔	16⅔	16⅔	16⅔	16⅔	16⅔	16⅔	16⅔	16⅔	16⅔	16⅔	16⅔	16⅔
Size Sprocket—Inches	23	23	23½	23½	23½	23	23	23½	23½	23½	23	23½	23½	23½
Gear Diameter—Inches	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83
Gear Pitch—Inches	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼
Gear Face—Inches	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Countershaft														
Diameter—Inches	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	2 7/16	2 7/16	2 7/16
Rev. per Min.	83	83	83	83	83	83	83	83	83	83	83	83	83	83
Pinion Diameter—Inches	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01
Pinion Face—Inches	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼
Foot Shaft														
Diameter—Inches	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 7/16	1 15/16	1 15/16	1 15/16
Size Sprocket—Inches	23	23	23½	23½	23½	23	23	23½	23½	23½	23	23½	23½	23½
Trough														
Thickness or Gauge	10	10	10	10	3/16	10	10	10	10	3/16	10	10	10	3/16
Approx. Shipping Wgt.—Lbs.														
Terminals, Complete	630	630	680	670	770	730	730	770	760	950	730	930	920	950
Chain and Flights Per Ft. Ctrs.	10	9	16½	13	17	10	9	16½	13	17	10	16½	13	17
Trough and Bar Trackage Per Ft. Ctrs.	11	12	12	13½	17	11	12	12	13½	17	11	12	13½	17

*For Maximum Centers for all inclinations and corresponding capacities.

For Erection Dimensions of above conveyors see page 299.

Scraper Conveyors



A Jeffrey Single Strand Scraper Conveyor can readily be installed within a light gallery enclosure—over the bins of a retail coal pocket or boiler house storage, thus completely utilizing the whole of storage space below.

A Very Serviceable Conveyor for Ordinary Conditions

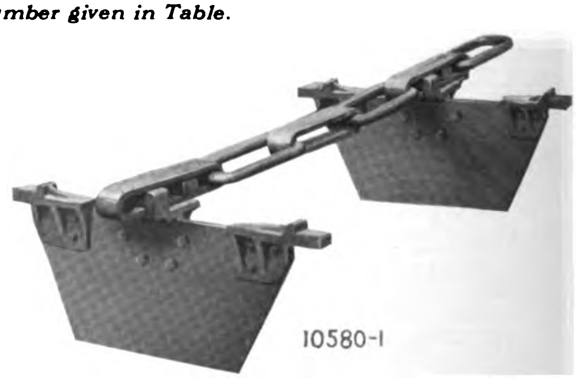
THIS type of Standard Scraper Conveying unit is similar to the type shown upon the preceding pages except that renewable malleable iron wearing blocks are placed on the ends of steel scrapers, thus transferring much of the wear from the scrapers and trough to the renewable wearing blocks and renewable wearing strips.

These Conveyors are adapted for handling material from 1¾ to 3 cubic inches at the rate of 48 to 70 tons per hour, a slight increase over the capacities of the malleable scrapers of pages 282 and 283.

Two types of All-Steel Jeffrey Chains are used here, the 518 Flat and Round Link of 5200 pounds working strength which can be readily repaired by any blacksmith and the 526 Vulcan type of 1640 pounds which in an emergency may be repaired with machine bolts.

Specify Conveyor by Number given in Table.

Jeffrey Number 526 Vulcan Chain with 15 x 7 or 18 x 8 inch steel scrapers, spaced every 24 inches. The Scrapers are fitted with malleable iron wearing blocks.



Jeffrey Number 518 Flat and Round Steel Link Chain with 15 x 7 or 18 x 8 inch steel scrapers spaced every 32 inches. The scrapers are fitted with malleable iron wearing blocks.

Specifications of Jeffrey Standard Scraper Conveyors using Single Strand Steel Link and Vulcan Chain, Steel Scrapers with Wearing Blocks

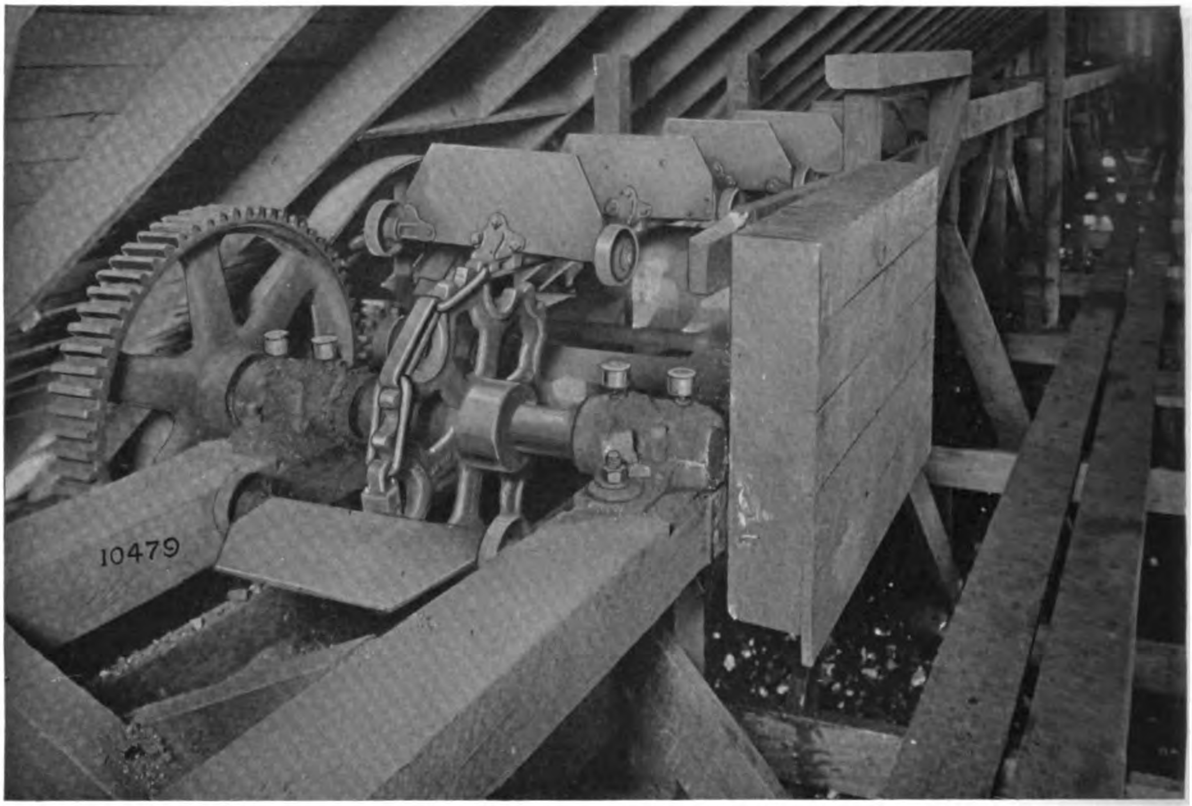
Wood Supports—*For Steel Supports see page 309.*

Lgth. of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers				101 to 150 ft. Centers				151 to 200 ft. Centers		
No. of Conveyor	**3300**	**3301**	**3302**	**3303**	**3304**	**3305**	**3306**	**3307**	**3308**	**3309**	**3310**	**3311**	**3312**	**3313**	**3314**
Size of Material—In.															
Avge. size of Material to be handled	1¾	1¾	3	3	1¾	1¾	3	3	1¾	1¾	3	3	1¾	1¾	3
Max. size; not to exceed 10% of whole	3½	3½	5	5	3½	3½	5	5	3½	3½	5	5	3½	3½	5
Capacity—In tons per hr.															
Horizontal	48	48	70	70	48	48	70	70	48	48	70	70	48	48	70
15° Incline	26	26	38	38	26	26	38	38	26	26	0	38	0	26	38
30° Incline	19	19	27	27	19	19	0	27	0	19	0	27	0	19	27
45° Incline	16	16	23	23	16	16	0	23	0	16	0	23	0	16	23
Size Scraper—In.															
Length	15	15	18	18	15	15	18	18	15	15	18	18	15	15	18
Depth	7	7	8	8	7	7	8	8	7	7	8	8	7	7	8
Thickness of Steel	3/16	3/16	¼	¼	3/16	3/16	¼	¼	3/16	3/16	¼	¼	3/16	3/16	¼
Spacing—Inches	24	32	24	32	24	32	24	32	24	32	24	32	24	32	32
Chain															
Number and Style	526 V	518 S.L.	526 V	518 S.L.	526 V	518 S.L.	526 V	518 S.L.	526 V	518 S.L.	526 V	518 S.L.	526 V	518 S.L.	518 S.L.
Pitch—Inches	6	8	6	8	6	8	6	8	6	8	6	8	6	8	8
Attachments	A½	A1	A½	A1	A½	A1	A½	A1	A½	A1	A½	A1	A½	A1	A1
Work Strength–Lbs.	1640	5200	1640	5200	1640	5200	1640	5200	1640	5200	1640	5200	1640	5200	5200
H. P. at Countershaft*	1.8	1.7	2.4	2.3	3.7	3.5	4.9	4.6	5.5	5.2	7.3	7.0	7.4	7.0	9.3
Head Shaft															
Diameter—In.	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	3 7/16	2 15/16	3 7/16	2 15/16	3 15/16	2 15/16	3 15/16	4 7/16
Rev. per Min.	16⅔	15	16⅔	15	16⅔	15	16⅔	15	16⅔	15	16⅔	15	16⅔	15	15
Size Sprocket—In.	23½	26	23½	26	23½	26	23½	26	23½	26	23½	26	23½	26	26
Gear Diam.—In.	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	40.12	40.12	40.12	40.12	40.12
Gear Pitch—In.	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1½	1½	1½	1½	1½
Gear Face—In.	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4
Countershaft															
Diameter—In.	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 11/16	2 7/16	2 11/16	2 7/16	2 15/16	2 7/16	2 15/16	3 7/16
Rev. per Min.	83	75	83	75	83	75	83	75	83	75	93	84	93	84	84
Pinion Diam.—In.	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	7.22	7.22	7.22	7.22	7.22
Pinion Face—In.	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	4½	4½	4½	4½	4½
Foot Shaft															
Diameter—In.	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	2 7/16	1 15/16	2 7/16	1 15/16	2 7/16	2 15/16
Size Sprocket—In.	23½	26	23½	26	23½	26	23½	26	23½	26	23½	26	23½	26	26
Trough															
Thickness or Gauge	10	3/16	10	3/16	10	3/16	10	3/16	10	3/16	10	3/16	10	3/16	3/16
Approx. Shipping Wgt.—Lbs.															
Terminals, Complete	830	940	1040	1145	1020	1120	1040	1310	1020	1280	1280	1680	1230	1580	2120
Chain and Flights per Ft. Ctrs.	24	20½	28	24½	24	20½	28	24½	24	20½	28	24½	24	20½	24½
Trough and Bar Trackage per Ft. Ctrs.	18½	22½	21	25½	18½	22½	21	25½	18½	22½	21	25½	18½	22½	25½

*For Maximum Centers for all inclinations and corresponding capacities.

For Erection Dimensions of above Conveyors, see page 300.

Scraper Conveyors



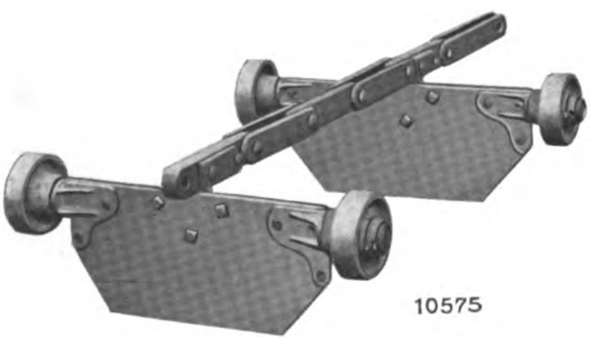
A Jeffrey Single Strand Scraper Conveyor fitted with rollers, distributing coal over storage bins in a Glass Factory.

The Addition of Rollers Reduces Friction

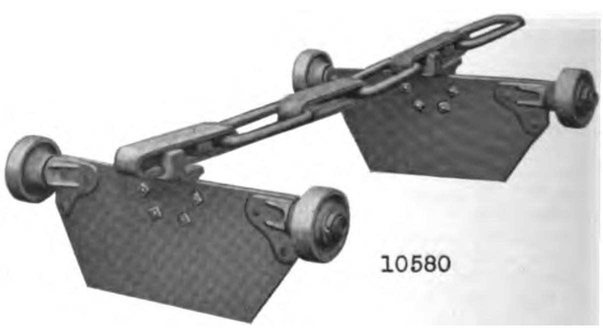
THE use of rollers on scrapers materially reduces the pull over curves of conveyors operating from horizontal to an incline and vice versa. The Steel Scrapers either 15 x 7 or 18 x 8 inches as specified in the opposite table are used on this type of conveyor, thereby increasing the range of capacity a trifle over the smaller scrapers listed on pages 282 and 283.

Two types of all steel Jeffrey Chains are used here—the 518 Flat and Round Link of 5200 pounds working strength which can be readily repaired by any blacksmith and the 526 Vulcan type of 1640 pounds which in an emergency may be repaired with machine bolts.

Specify Conveyor by Number given in Table.



Jeffrey Number 526 Vulcan Chain fitted with either 15 x 7 or 18 x 8 inch scrapers with roller attachments. The scrapers are spaced every 24 inches.



Jeffrey Number 518 Flat and Round Steel Link Chain fitted with either 15 x 7 or 18 x 8 inch Scrapers with roller attachments. The scrapers are spaced every 32 inches.

Specifications of Jeffrey Standard Scraper Conveyors Using Single Strand Steel Link and Vulcan Chain, Steel Scrapers with Roller Attachments

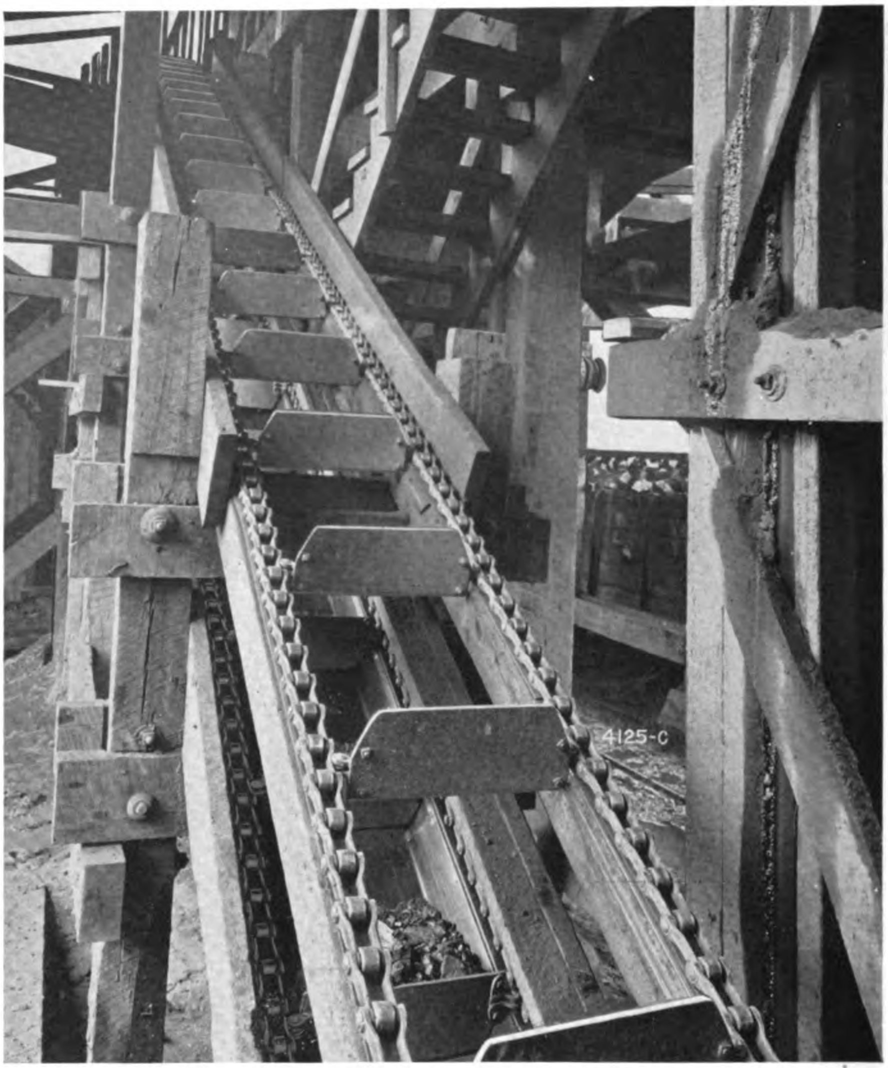
Wood Supports—*For Steel Supports see page 311.*

Lgth. of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers				101 to 150 ft. Centers				151to200ft.Centers		
No. of Conveyor	**2938**	**2939**	**2940**	**2941**	**2942**	**2943**	**2944**	**2945**	**2946**	**2947**	**2948**	**2949**	**2950**	**2951**	**2952**
Size of Material—In.															
Avge. size of Material to be handled	1¾	1¾	3	3	1¾	1¾	3	3	1¾	1¾	3	3	1¾	1¾	3
Max. size; not to exceed 10% of whole	3½	3½	5	5	3½	3½	5	5	3½	3½	5	5	3½	3½	5
Capacity—In tons per hr.															
Horizontal	48	48	70	70	48	48	70	70	48	48	70	70	48	48	70
15° Incline	26	26	38	38	26	26	38	38	26	26	0	38	0	26	38
30° Incline	19	19	27	27	19	19	0	27	0	19	0	27	0	19	27
45° Incline	16	16	23	23	16	16	0	23	0	16	0	23	0	16	23
Size Scraper—In.															
Length	15	15	18	18	15	15	18	18	15	15	18	18	15	15	18
Depth	7	7	8	8	8	7	8	8	7	7	8	8	7	7	8
Thickness of Steel	3/16	3/16	¼	¼	3/16	3/16	¼	¼	3/16	3/16	¼	¼	3/16	3/16	¼
Spacing, Inches	24	32	24	32	24	32	24	32	24	32	24	32	24	32	32
Chain															
Number and Style	526 V	518 S.L.	526 V	518 S.L.	526 V	518 S.L.	526 V	518 S.L.	526 V	518 S.L.	526 V	518 S.L.	526 V	518 S.L.	518 S.L.
Pitch—Inches	6	8	6	8	6	8	6	8	6	8	6	8	6	8	8
Attachments	A½	A1	A½	A1	A½	A1	A½	A1	A½	A1	A½	A1	A½	A1	A1
Work. Strength-Lbs.	1640	5200	1640	5200	1640	5200	1640	5200	1640	5200	1640	5200	1640	5200	5200
H. P. At Countershaft*	1.8	1.7	2.4	2.3	3.6	3.4	4.6	4.6	5.1	5.1	6.7	6.9	6.7	6.8	9.2
Head Shaft															
Diameter—In.	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	3 7/16	2 15/16	3 7/16	2 15/16	3 15/16	2 15/16	3 15/16	4 7/16
Rev. per Min.	16⅔	15	16⅔	15	16⅔	15	16⅔	15	16⅔	15	16⅔	15	16⅔	15	15
Size Sprocket—In.	23½	26	23½	26	23½	26	23½	26	23½	26	23½	26	23½	26	26
Gear Diam.—In.	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	40.12	40.12	40.12	40.12	40.12
Gear Pitch—In.	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1½	1½	1½	1½	1½
Gear Face—In.	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4
Countershaft															
Diameter—In.	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 11/16	2 7/16	2 11/16	2 7/16	2 15/16	2 7/16	2 15/16	3 7/16
Rev. per Min.	83	75	83	75	83	75	83	75	83	75	93	84	93	84	84
Pinion Diam.—In.	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	7.22	7.22	7.22	7.22	7.22
Pinion Face—In.	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	4½	4½	4½	4½	4½
Foot Shaft															
Diameter—In.	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	2 7/16	1 15/16	2 7/16	1 15/16	2 7/16	2 15/16
Size Sprocket—In.	23½	26	23½	26	23½	26	23½	26	23½	26	23½	26	23½	26	26
Trough															
Thickness or Gauge	10	3/16	10	3/16	10	3/16	10	3/16	10	3/16	10	3/16	10	3/16	3/16
Approx. Shipping Wgt.—Lbs.															
Terminals, Complete	830	940	1040	1145	1020	1120	1040	1310	1020	1280	1280	1680	1230	1580	2120
Chain and Flights per Ft. Ctrs.	30	26	34	30	30	26	34	30	30	26	34	30	30	26	30
Trough and Bar Trackage per Ft. Ctrs.	18½	22½	21	25½	18½	22½	21	25½	18½	22½	21	25½	18½	22½	25½

*For Maximum Centers for all inclinations and corresponding capacities.

For Erection Dimensions of above Conveyors, see page 301.

Scraper Conveyors



Where local conditions require an inclined Conveyor, the Scraper has proved to be a highly efficient method with a comparatively small amount of machinery for handling loose material on fairly steep slopes but ordinarily not greater than 45 degrees to the horizontal.

The Next Step is the Double Strand Conveyor

When large pieces or large capacities are handled, two strands of chain are used on a Jeffrey Scraper Conveyor. This is usually the construction when the average size of pieces is larger in volume than 3 inch cubes or capacities are in excess of 60 tons per hour of coal or similar material.

This Standard Jeffrey unit is fitted with two strands of either Number 14½ or 126C Malleable Roller Chains of 1600 and 3100 pounds working strength respectively.

Jeffrey Number 14½ Malleable Roller Chain fitted with 18 x 6 inch steel scrapers spaced every 24 inches, or Number 126C Malleable Roller Chain fitted with either 18 x 6 or 24 x 8 inch steel scrapers spaced every 24 inches.

Specify Conveyor by Number given in Table.

Specifications of Jeffrey Standard Scraper Conveyors using Double Strand Malleable Roller Chain with Steel Scrapers

Wood Supports—*For Steel Supports see page 313.*

Length of Conveyor	0 to 50 ft. Centers			51 to 100 ft. Centers			101 to 150 ft. Centers			151 to 200 ft. Centers		
No. of Conveyor	**2953**	**2954**	**2955**	**2956**	**2957**	**2958**	**2959**	**2960**	**2961**	**2962**	**2963**	**2964**
Size of Material—In.												
Avge. size of Material to be handled	6	6	8	6	6	8	6	6	8	6	6	8
Max. size; not to exceed 10% of whole	9	9	12	9	9	12	9	9	12	9	9	12
Capacity—In tons per hr.												
Horizontal	60	60	112	60	60	112	60	60	112	60	60	112
15° Incline	32	32	60	32	32	60	32	32	60	32	32	60
30° Incline	23	23	44	23	23	44	23	23	44	23	23	44
45° Incline	20	20	37	20	20	37	20	20	37	20	20	37
Size Scraper—In.												
Length	18	18	24	18	18	24	18	18	24	18	18	24
Depth	6	6	8	6	6	8	6	6	8	6	6	8
Thickness of Steel	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
Spacing—Inches	24	24	24	24	24	24	24	24	24	24	24	24
Chain												
Number and Style	14½ M.R.	126 C	126 C	14½ M.R.	126 C	126 C	14½ M.R.	126 C	126 C	14½ M.R.	126 C	126 C
Pitch—Inches	4.01	6	6	4.01	6	6	4.01	6	6	4.01	6	6
Attachments	T & M1 Sp.	T-Hy & M1 Sp.	T-Hy & M1 Sp.	T & M1 Sp.	T-Hy & M1 Sp.	T-Hy & M1 Sp.	T & M1 Sp.	T-Hy & M1 Sp.	T-Hy & M1 Sp.	T & M1 Sp.	T-Hy & M1 Sp.	T-Hy & M1 Sp.
Work Strength—Lbs	1600	3100	3100	1600	3100	3100	1600	3100	3100	1600	3100	3100
H. P. At Countershaft*	1.9	2.5	3.8	3.9	5.0	7.6	5.8	7.5	11.4	7.8	10.0	15.2
Head Shaft												
Diameter—Inches	1 15/16	2 7/16	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	3 7/16	3 7/16	3 7/16	3 7/16	3 15/16
Rev. per Min.	15½	16⅔	16⅔	15½	16⅔	16⅔	15½	16⅔	16⅔	15½	16⅔	16⅔
Size Sprocket—In.	24¾	23¾	23¾	24¾	23¾	23¾	24¾	23¾	23¾	24¾	23¾	23¾
Gear Diam—In.	29.83	29.83	29.83	29.83	29.83	40.12	29.83	40.12	40.12	40.12	40.12	41.24
Gear Pitch—In.	1¼	1¼	1¼	1¼	1¼	1½	1¼	1½	1½	1½	1½	1¾
Gear Face—In.	3	3	3	3	3	4	3	4	4	4	4	6
Countershaft												
Diameter—In.	1 7/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 11/16	2 11/16	2 11/16	2 11/16	2 15/16
Rev. per Min.	78	83	83	78	83	93	78	93	93	87	93	82
Pinion Diam.—In.	6.01	6.01	6.01	6.01	6.01	7.22	6.01	7.22	7.22	7.22	7.22	8.42
Pinion Face—In.	3¼	3¼	3¼	3¼	3¼	4½	3¼	4½	4½	4½	4½	6⅜
Foot Shaft												
Diameter—In.	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16
Size Sprocket—In.	24¾	23¾	23¾	24¾	23¾	23¾	24¾	23¾	23¾	24¾	23¾	23¾
Trough												
Thickness or Gauge	10	3/16	3/16	10	3/16	3/16	10	3/16	3/16	10	3/16	3/16
Approx. Shipping Wgt.—Lbs.												
Terminals, Complete	860	1300	1340	970	1500	1780	1160	1900	1920	1560	1900	2660
Chain and Flights per Ft. Ctrs.	24	42	48	24	42	48	24	42	48	24	42	48
Trough and Bar Trackage per Ft. Ctrs.	19½	24½	30	19½	24½	30	19½	24½	30	19½	24½	30

*For Maximum Centers for all inclinations and corresponding capacities.

For Erection Dimensions of above Conveyors, see page 302.

Scraper Conveyors

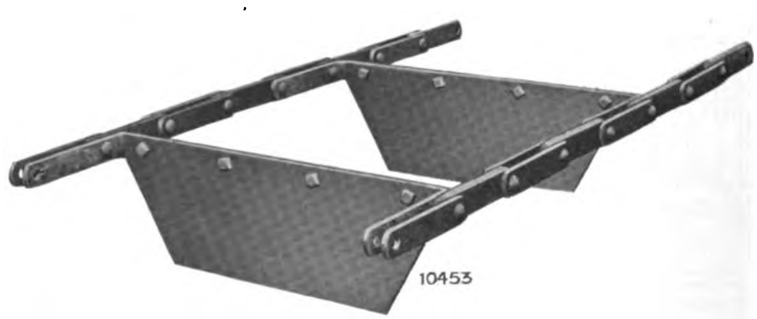
An Inclined Scraper Conveyor for carrying coal from track hopper to storage bin, serving the double purpose of a Horizontal Conveyor and a Vertical Elevator.

Forged Cross Bars strengthen this Conveying Unit

THE forged cross bars bolted to the scraper form at intervals the inside bars of the Vulcan Chains used at the end of scrapers thus making more rigid the conveyor as a whole. This conveying unit is adapted for handling material up to 6 or 8 inch cubes at the rate of 60 to 112 tons per hour.

The dimensions of the scrapers in depth and width used on Jeffrey Standard Conveyors in conjunction with their spacing is such as to most economically carry the capacities listed of the maximum size pieces given in the tables. The 526 Vulcan Chain used in these conveyors is a steel side bar type of 1640 pounds working strength; is extremely simple in design; very durable for the purpose; and easily repaired.

Specify Conveyor by Number given in Table.



Jeffrey Number 526 Vulcan Chain with 18 x 6 or 24 x 8 inch Steel Scrapers spaced every 24 inches.

Specifications of Jeffrey Standard Scraper Conveyors using Double Strand Vulcan Chain with Steel Scrapers

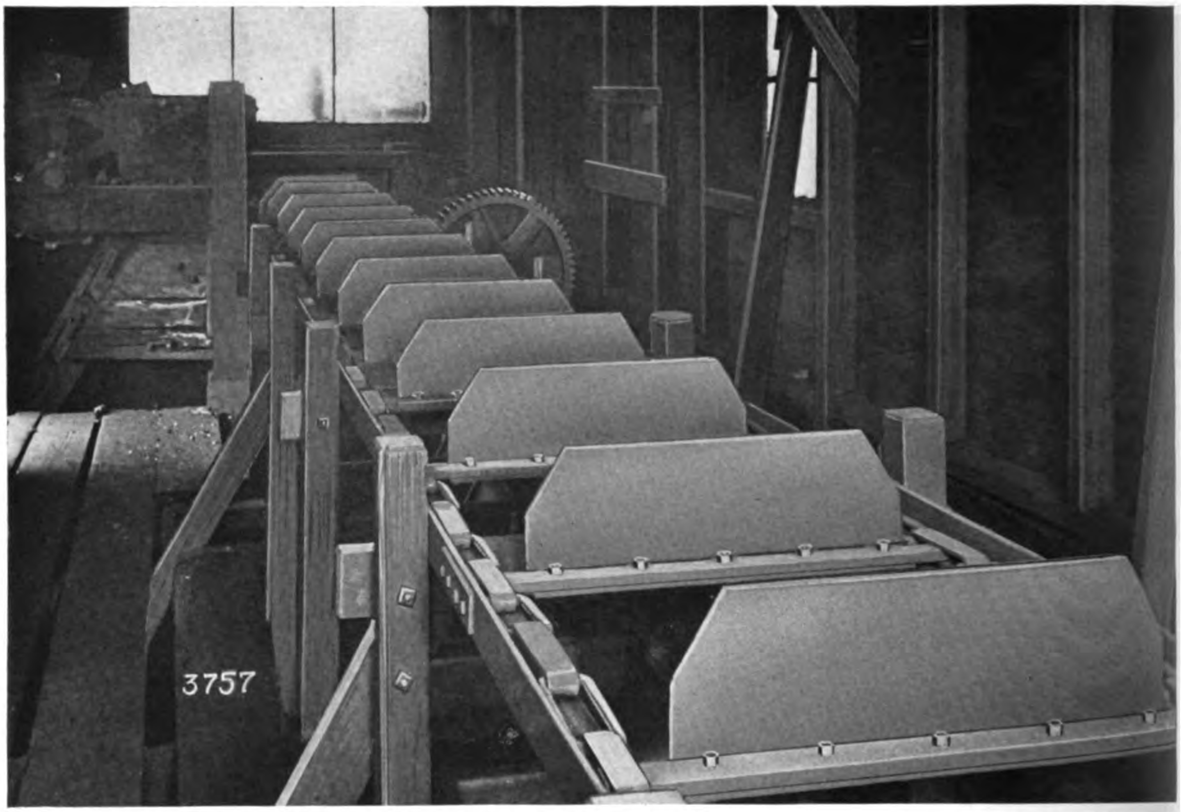
Wood Supports—*For Steel Supports see page 315.*

Length of Conveyor	0 to 50 ft. Centers		51 to 100 ft. Centers		101 to 150 ft. Centers		151 to 200 ft. Centers
No. of Conveyor	**2965**	**2966**	**2968**	**2969**	**2971**	**2972**	**2973**
Size of Material—In.							
Avge. size of Material to be handled	6	8	6	8	6	8	6
Max. size; not to exceed 10% of whole	9	12	9	12	9	12	9
Capacity—In tons per hour							
Horizontal	60	112	60	112	60	112	60
15° Incline	32	60	32	60	32	60	32
30° Incline	23	44	23	44	23	0	0
45° Incline	20	37	20	37	20	0	0
Size Scraper—In.							
Length	18	24	18	24	18	24	18
Depth	6	8	6	8	6	8	6
Thickness of Steel	1/4	1/4	1/4	1/4	1/4	1/4	1/4
Spacing—Inches	24	24	24	24	24	24	24
Chain							
Number and Style	526V	526V	526V	526V	526V	526V	526V
Pitch—Inches	6	6	6	6	6	6	6
Attachments	Bent Side Bar	Bent Side Bar	Bent Side Bar	Bent Side Bar	Bent Side Bar	Bent Side Bar	Bent Side Bar
Working Strength—Lbs	1640	1640	1640	1640	1640	1640	1640
H. P. at Countershaft*	2.6	4.0	5.2	8.0	7.8	12.1	10.4
Head Shaft							
Diameter—Inches	1 15/16	2 7/16	2 7/16	2 15/16	2 15/16	3 7/16	3 7/16
Rev. per Min.	16 1/6	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3	16 2/3
Size Sprocket—Inches	23 1/2	23 1/2	23 1/2	23 1/2	23 1/2	23 1/2	23 1/2
Gear Diam.—Inches	29.83	29.83	29.83	40.12	40.12	40.12	40.12
Gear Pitch—Inches	1 1/4	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	1 1/2
Gear Face—Inches	3	3	3	4	4	4	4
Countershaft							
Diameter—Inches	1 7/16	1 15/16	1 15/16	2 7/16	2 7/16	2 11/16	2 11/16
Rev. per Min.	83	83	83	93	93	93	93
Pinion Diam.—Inches	6.01	6.01	6.01	7.22	7.22	7.22	7.22
Pinion Face—Inches	3 1/4	3 1/4	3 1/4	4 1/2	4 1/2	4 1/2	4 1/2
Foot Shaft							
Diameter—Inches	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	2 7/16	2 7/16
Size Sprocket—Inches	23 1/2	23 1/2	23 1/2	23 1/2	23 1/2	23 1/2	23 1/2
Trough							
Thickness—Inches	3/16	3/16	3/16	3/16	3/16	3/16	3/16
Approx. Shipping Wgt.—Lbs.							
Terminals, Complete	940	1090	1060	1510	1480	1660	1650
Chain and Flights per Ft. Ctrs.	32	38	32	38	32	38	32
Trough and Bar Trackage per Ft. Ctrs.	24 1/2	30	24 1/2	30	24 1/2	30	24 1/2

*For Maximum Centers for all inclinations and corresponding capacities.

For Erection Dimensions of above Conveyors, see page 303.

Scraper Conveyors



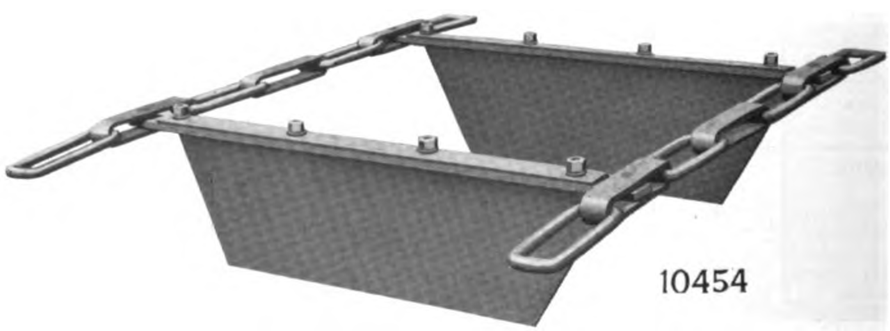
The Jeffrey Standard Scraper Conveyor with timber supports may be quickly installed as a temporary or permanent equipment in power house extensions.

A Strong Conveyor for very large Capacities.

THIS Conveyor is fitted with either 30 x 10 or 36 x 10 inch steel scrapers to a steel cross bar which fastens in the flat link of the Flat and Round Steel Link Chain in which it can swivel, thus readily equalizing the load on the two strands of chain. The Number 518 Jeffrey Flat and Round Steel Link Chain used on these conveyors has a working strength of 5200 pounds.

This chain has the advantage of great wearing qualities in non-gritty and semi-gritty materials such as coal, due to the external and internal wearing surface of the flat link in addition to being a welded all steel chain.

Specify Conveyor by Number given in Table.



Jeffrey Number 518 Flat and Round Steel Link Chain fitted with 30 x 10 and 36 x 10 inch Scrapers spaced every 32 inches.

Scraper Conveyors

Specifications of Jeffrey Standard Scraper Conveyors using Double Strand Steel Link Chain with Steel Scrapers

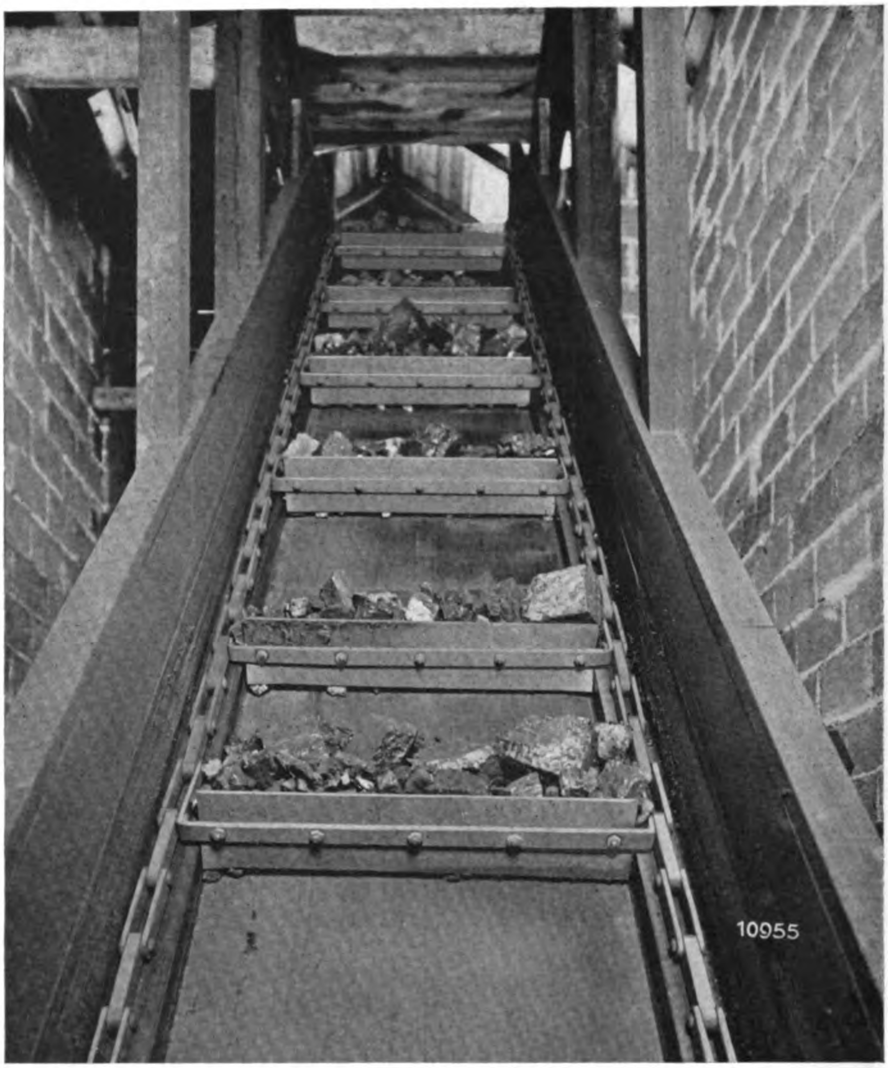
Wood Supports—*For Steel Supports see page 317.*

Length of Conveyor	0 to 50 ft. Centers		51 to 100 ft. Centers		101 to 150 ft. Centers		151 to 200 ft. Centers	
No. of Conveyor	**2974**	**2975**	**2976**	**2977**	**2978**	**2979**	**2980**	**2981**
Size of Material—In.								
Avge. size of Material to be handled	10	12	10	12	10	12	10	12
Max. size; not to exceed 10% of whole	14	16	14	16	14	16	14	16
Capacity—In tons per hour								
Horizontal	195	241	195	241	195	241	195	241
15° Incline	105	130	105	130	105	130	105	130
30° Incline	76	94	76	94	76	94	76	94
45° Incline	65	80	65	80	65	80	65	80
Size Scraper—Inches								
Length	30	36	30	36	30	36	30	36
Depth	10	10	10	10	10	10	10	10
Thickness of Steel	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
Spacing—Inches	32	32	32	32	32	32	32	32
Chain								
Number and Style	518S.L	518S.L	518S.L	518S.L	518S.L	518S.L	518S.L	518S.L
Pitch—Inches	8	8	8	8	8	8	8	8
Attachments	Cross Bar	Cross Bar	Cross Bar	Cross Bar	Cross Bar	Cross Bar	Cross Bar	Cross Bar
Working Strength—Lbs	5200	5200	5200	5200	5200	5200	5200	5200
H. P. at Countershaft*	6.2	7.5	12.3	14.9	18.5	22.4	24.6	30
Head Shaft								
Diameter—Inches	2 15/16	2 15/16	3 15/16	3 15/16	4 7/16	4 7/16	4 15/16	5 7/16
Rev. per Min.	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2
Size Sprocket—Inches	31 1/4	31 1/4	31 1/4	31 1/4	31 1/4	31 1/4	31 1/4	31 1/4
Gear Diam.—Inches	40.12	40.12	41.24	41.24	48.41	41.24 C.S.	41.24 C.S.	41.24 C.S.
Gear Pitch—Inches	1 1/2	1 1/2	1 3/4	1 3/4	2	1 3/4	1 3/4	1 3/4
Gear Face—Inches	4	4	6	6	6	6	6	6
Countershaft								
Diameter—Inches	2 7/16	2 7/16	2 15/16	2 15/16	3 7/16	3 7/16	3 15/16	4 7/16
Rev. per Min.	70	70	61	61	64	61	61	61
Pinion Diam.—Inches	7.22	7.22	8.42	8.42	9.62	8.42 C. S.	8.42 C. S.	8.42 C. S.
Pinion Face—Inches	4 1/2	4 1/2	6 3/8	6 3/8	6 1/2	6 3/8	6 3/8	6 3/8
Foot Shaft								
Diameter—Inches	1 15/16	1 15/16	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16
Size Sprocket—Inches	31 1/4	31 1/4	31 1/4	31 1/4	31 1/4	31 1/4	31 1/4	31 1/4
Trough								
Thickness—Inches	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
Approx. Shipping Wgt.—Lbs.								
Terminals, Complete	2100	2150	2750	2810	3540	3420	3630	4120
Chain and Flights per Ft. Ctrs.	44	50	44	50	44	50	44	50
Trough and Bar Trackage per Ft. Ctrs.	47 1/2	52 1/2	47 1/2	52 1/2	47 1/2	52 1/2	47 1/2	52 1/2

*For Maximum Centers for all inclinations and corresponding capacities.

For Erection Dimensions of above Conveyors, see page 304.

Scraper Conveyors



Any of the Jeffrey Standard Conveyors can be extended into the horizontal or up another incline to suit the factory arrangement, or local ground conditions.

A Conveyor Specially Designed for Handling Large Pieces.

THIS Conveyor is especially fitted to retail coal yards or pockets and to many small power plants where ordinarily a comparatively small capacity of large coal is to be handled. This may be readily noted from the wide but shallow scrapers.

Jeffrey Number 526 Vulcan Steel Chain with 30 x 6 inch steel scrapers spaced every 36 inches.

The average size of material handled by this type of Conveyor may be 12-inch cubes, the maximum size not exceeding 16 inches. No. 526 Vulcan Chain of 1640 pounds working strength is used on these Conveyors.

Specify Conveyor by Number given in Table.

Specifications of Jeffrey Standard Scraper Conveyors using Double Strand Vulcan Chain with Shallow Steel Scrapers

Wood Supports—*For Steel Supports see page 319.*

Many Retail Coal Pockets use the Scraper Conveyor to handle their coal.

Length of Conveyor	0 to 50 ft. Centers	51 to 100 ft. Centers
No. of Conveyor	**2967**	**2970**
Size of Material—Inches		
Average size of Material to be handled	12	12
Maximum size; not to exceed 10% of whole	16	16
Capacity—In tons per hr.		
Horizontal	150	150
15° Incline	81	81
30° Incline	59	59
45° Incline	50	50
Size Scraper—Inches		
Length	30	30
Depth	6	6
Thickness of Steel	1/4	1/4
Spacing	36	36
Chain		
Number and Style	526V	526V
Pitch—Inches	6	6
Attachments	Bent Side Bar	Bent Side Bar
Working Strength—Lbs.	1640	1640
H. P. At Countershaft*	4.8	9.5

Length of Conveyor	0 to 50 ft. Centers	51 to 100 ft. Centers
No. of Conveyor	**2967**	**2970**
Head Shaft		
Diameter—Inches	2 15/16	3 7/16
Rev. per Min.	12 1/2	12 1/2
Size Sprocket—Inches	31 1/4	31 1/4
Gear Diam.—Inches	40.12	41.24
Gear Pitch—Inches	1 1/2	1 3/4
Gear Face—Inches	4	6
Countershaft		
Diameter—Inches	2 7/16	2 11/16
Rev. per Min.	70	61
Pinion Diam.—Inches	7.22	8.42
Pinion Face—Inches	4 1/2	6 3/8
Foot Shaft		
Diameter—Inches	1 15/16	2 7/16
Size Sprocket—Inches	31 1/4	31 1/4
Trough		
Gauge	10	10
Style	Flat Plate	Flat Plate
Approx. Shipping Wgt.—Lbs		
Terminals, Complete	1840	2300
Chain and Flights per Ft. Ctrs.	34	34
Trough and Bar Trackage per Ft. Ctrs.	28	28

*For Maximum Centers for all inclinations and corresponding capacities.

For Erection Dimensions of above Conveyors, see page 304.

Scraper Conveyors

On the larger Scraper Conveyors the chains used are ordinarily of the Roller type, as the amount of power saved on the longer Conveyors of large capacity is usually of sufficient magnitude to justify their use over chains without rollers.

Handling 230 Tons of Coal Per Hour

THIS type of Conveyor is adapted for handling coal and similar material up to 8 or 12 inch cubes and capacities ranging from 92 to 238 tons per hour of coal. The Number 276 Steel Thimble Roller Chain used on these conveyors has a working strength of 5200 pounds. Steel Thimble Roller Chains are of the highest type of chain in the whole elevating and conveying field.

This chain with its 4 inch single flange rollers is made up of high carbon steel side bars and hardened steel thimbles, the thimbles being held rigidly in place by the side bars, thereby confining all wear to the long bearing surface of the thimbles. No chain will give better results under severe shocks and occasional over loads than the steel thimble roller chain.

Jeffrey Number 276 Steel Thimble Roller Chain equipped with Steel Flanged Scrapers fitted with either 24 x 8 spaced every 24 inches or 30 x 10 and 36 x 12 Steel Scrapers spaced every 36 inches.

Specify Conveyor by Number given in Table.

Scraper Conveyors

Specifications of Jeffrey Standard Scraper Conveyors using Double Strand Steel Thimble Roller Chain with Steel Scrapers

Wood Supports—*For Steel Supports see page 321.*

Length of Conveyor	0 to 50 ft. Centers			51 to 100 ft. Centers			101 to 150 ft. Centers			151 to 200 ft. Centers		
No. of Conveyor	**2982**	**2983**	**2984**	**2985**	**2986**	**2987**	**2988**	**2989**	**2990**	**2991**	**2992**	**2993**
Size of Material—In.												
Avge. size of Material to be handled	8	10	12	8	10	12	8	10	12	8	10	12
Max. size; not to exceed 10% of whole	12	14	16	12	14	16	12	14	16	12	14	16
Capacity—In tons per hour												
Horizontal	92	167	238	92	167	238	92	167	238	92	167	238
15° Incline	50	90	129	50	90	129	50	90	129	50	90	129
30° Incline	36	65	93	36	65	93	36	65	93	36	65	93
45° Incline	31	56	80	31	56	80	31	56	80	31	56	0
Size Scraper—In.												
Length	24	30	36	24	30	36	24	30	36	24	30	36
Depth	8	10	12	8	10	12	8	10	12	8	10	12
Thickness of Steel	¼	¼	¼	¼	¼	¼	¼	¼	¼	¼	¼	¼
Spacing	24	36	36	24	36	36	24	36	36	24	36	36
Chain												
Number and Style	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R
Pitch—Inches	12	12	12	12	12	12	12	12	12	12	12	12
Attachments	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper
Work. Strength—Lbs.	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200
H. P. at Countershaft*	3.8	5.5	7.4	7.6	11.0	14.7	11.4	16.5	22.1	15.2	22.0	29.3
Head Shaft												
Diameter—Inches	2 7/16	2 15/16	3 7/16	3 7/16	3 15/16	4 7/16	3 15/16	4 7/16	4 15/16	4 7/16	4 15/16	5 7/16
Rev. per Min.	16⅔	11	11	16⅔	11	11	16⅔	11	11	16⅔	11	11
Size Sprocket—Inches	24	35½	35½	24	35½	35½	24	35½	35½	24	35½	35½
Gear Diam.—Inches	29.83	40.12	40.12	40.12	41.24	41.24	40.12	48.41	41.24 C.S.	41.24	41.24 C.S.	41.24 C. S.
Gear Pitch—Inches	1¼	1½	1½	1½	1¾	1¾	1½	2	1¾	1¾	1¾	1¾
Gear Face—Inches	3	4	4	4	6	6	4	6	6	6	6	6
Countershaft												
Diameter—Inches	1 15/16	2 7/16	2 11/16	2 11/16	2 15/16	3 7/16	2 15/16	3 7/16	3 15/16	3 7/16	3 15/16	4 7/16
Rev. per Min.	83	62	62	93	54	54	93	56	54	82	54	54
Pinion Diam.—Inches	6.01	7.22	7.22	7.22	8.42	8.42	7.22	9.62	8.42 C.S.	8.42	8.42 C.S.	8.42 C.S.
Pinion Face—Inches	3¼	4½	4½	4½	6⅜	6⅜	4½	6½	6⅜	6⅜	6⅜	6⅜
Foot Shaft												
Diameter—Inches	1 7/16	1 15/16	2 7/16	2 7/16	2 7/16	2 15/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16
Size Sprocket—In.	24	35½	35½	24	35½	35½	24	35½	35½	24	35½	35½
Trough												
Thickness—Inches	3/16	¼	¼	3/16	¼	¼	3/16	¼	¼	3/16	¼	¼
Approx. Shipping Wgt.—Lbs.												
Terminals, Complete	1620	2580	2580	2250	3230	3900	2440	4020	4200	3220	4120	4610
Chain and Flights per Ft. Ctrs.	72	72	80	72	72	80	72	72	80	72	72	80
Trough and Bar Trackage per Ft. Ctrs.	30	45	51½	30	45	51½	30	45	51½	30	45	51½

*For Maximum Centers for all inclinations and corresponding capacities.

For Erection Dimensions of above Conveyors, see page 305.

Scraper Conveyors

Placing the Jeffrey Scraper Conveyor in Your Building Plans

UPON the pages 299 to 305 and 322 to 328 are reproductions of erection drawings for the 25 kinds of Jeffrey Standard Conveyors.

The first set of drawings cover Conveyors having a wood construction and the latter set of drawings cover the same conveyors, but upon steel supports. Thus a Jeffrey Scraper Conveyor can be embodied in your plans at the beginning thereby saving time and expense.

This saving in time and expense has been many times exemplified in our own experience and that of others through the fact that builders often are not familiar with the conditions of the space required for the proper operation of machinery, and therefore, do not allow sufficient clearances in their building plans or space of a character adequate for proper conveying equipment. All of which frequently necessitates the changing of building plans after contracts have been let and sometimes after the structure has been finished.

Line Drawings show exact space required for Scraper Conveyor

The Jeffrey method of showing in this book, dimensioned line drawings applying to their equipment, eliminates the possibility of all such oversights, and in their place adds a positive element of perfect satisfaction when Jeffrey equipment is installed.

The first consideration in the location of a Scraper Conveyor over a space or bin should be to place the Conveyor sufficiently high to permit the material handled to discharge from the Conveyor, so as to fill the storage bin.

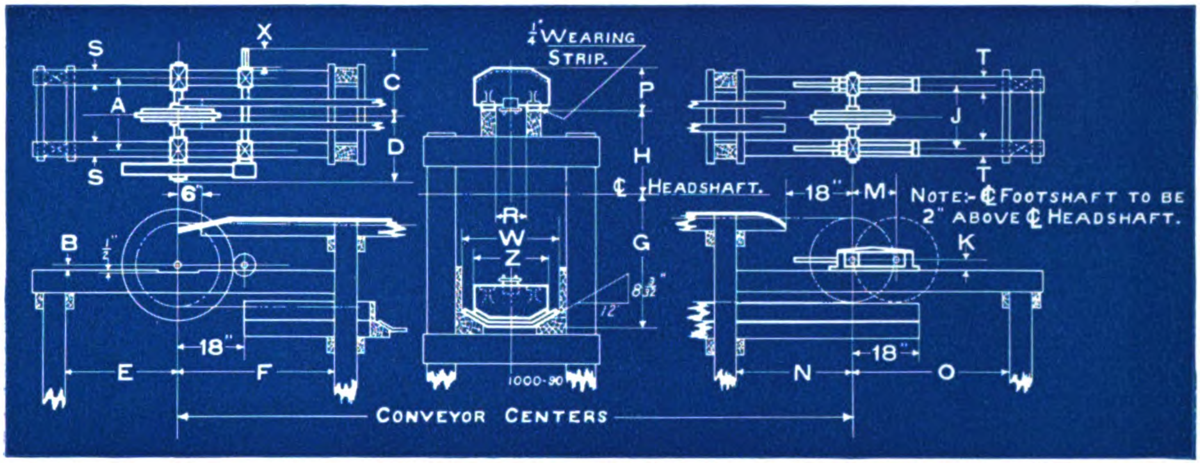
Proper Clearances are Important

This, it will be noted, gives the lowest possible elevation of the Scraper Conveyor, and ordinarily the least amount of super structure for a certain required storage, without having to hand trim the pile at each discharge valve opening in the scraper trough.

The next point to be noted in connection with the dimensioned line drawings in this book is that the scrapers on the return strand, which ordinarily operates above the carrying strand, should have at least six inches operating clearance to any overhead structure or roof truss members.

Further, wherever possible, it is well to have ample walkway clearance on at least one side of the Conveyor, to be not less than 24 inches and preferably 30 inches wide, with walking clearance height of $5\frac{1}{2}$ to 6 feet, wherever conditions will permit.

General Dimensions of Jeffrey Standard Scraper Conveyors



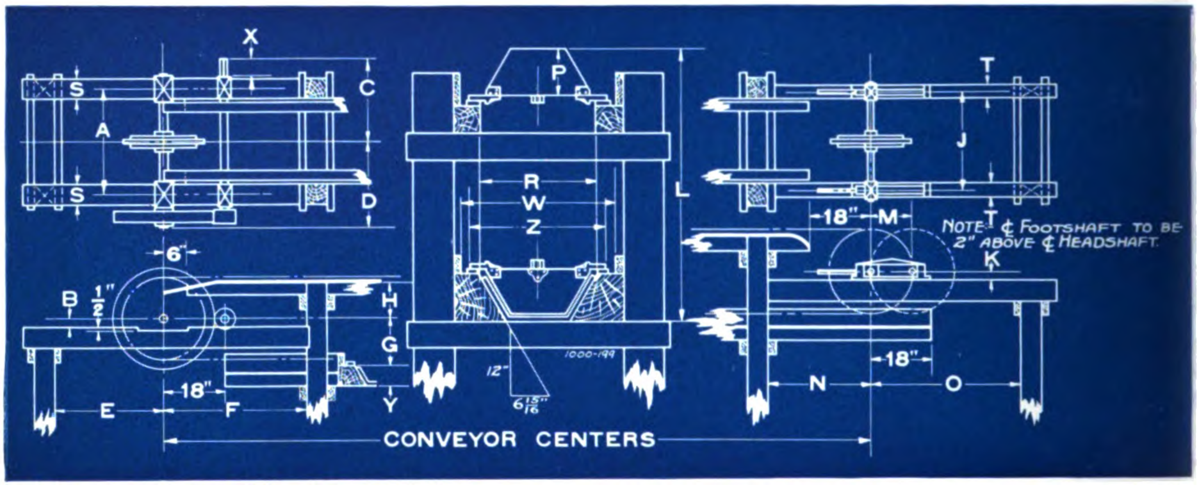
Using Single Strand Detachable and Vulcan Chain with Malleable Scrapers

Wood Supports—*For Steel Supports see page 322.* **Dimensions in Inches.**

Conveyor No.	A	B	C	D	E	F	G	H	J	K	M	N	O	P	R	S	T	W	X	Z
2924	19	1 3/16	17¾	16¾	30	42	17⅛	11¾	17	2¼	11¾	30	42	5¼	4	4	4	13	6	10
2925	21	1 3/16	18¾	17¾	30	42	17⅛	11¾	19	2¼	11¾	30	42	5¼	4	4	4	15	6	12
2926	21	1 3/16	18¾	17¾	30	42	17⅝	12¼	19	2¼	11¾	30	42	5¼	4	4	4	15	6	12
2927	24	1 3/16	20¼	19¼	30	42	17½	12⅛	22	2¼	11¾	30	42	5¼	4	4	4	18	6	15
2928	24	2⅝	21	20¾	30	42	17 11/16	12¼	22	2¼	11¾	30	42	5¼	4	6	4	18	6	15
2929	19	2⅝	18½	18¼	30	42	17⅛	11¾	17	2¼	11¾	30	42	5¼	4	6	4	13	6	10
2930	21	2⅝	19½	19¼	30	42	17⅛	11¾	19	2¼	11¾	30	42	5¼	4	6	4	15	6	12
2931	21	2⅝	19½	19¼	30	42	17⅝	12¼	19	2¼	11¾	30	42	5¼	4	6	4	15	6	12
2932	24	2⅝	21	20¾	30	42	17½	12⅛	22	2¼	11¾	30	42	5¼	4	6	4	18	6	15
2933	24	3⅛	21¾	21¾	30	42	17 11/16	12¼	22	2¾	12	30	42	5¼	4	6	4	18	6	15
2934	19	2⅝	18½	18¼	30	42	17⅛	11¾	17	2¼	11¾	30	42	5¼	4	6	4	13	6	10
2935	21	3⅛	20¼	20¼	30	42	17⅝	12¼	19	2¾	12	30	42	5¼	4	6	4	15	6	12
2936	24	3⅛	21¾	21¾	30	42	17½	12⅛	22	2¾	12	30	42	5¼	4	6	4	18	6	15
2937	24	3⅛	21¾	21¾	30	42	17 11/16	12¼	22	2¾	12	30	42	5¼	4	6	4	18	6	15

Scraper Conveyors

General Dimensions of Jeffrey Standard Scraper Conveyors

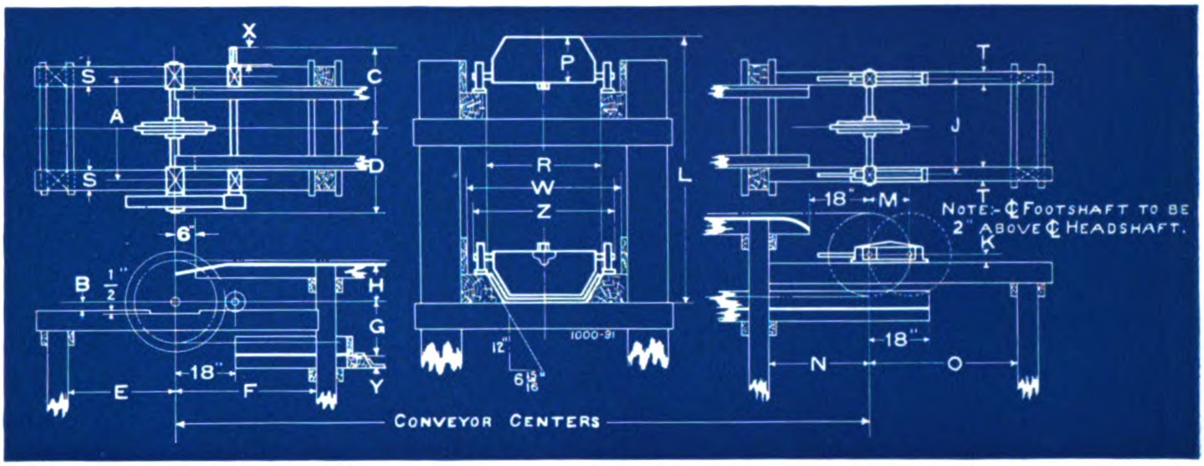


Using Single Strand Steel Link and Vulcan Chain, Steel Scrapers with Wearing Blocks.

Wood Supports—*For Steel Supports see page 323.* **Dimensions in Inches.**

Conveyor No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	W	X	Y	Z
3300	28½	2⅝	23¼	23	32	42	12¾	11¼	26½	2¼	39⅜	11¾	30	44	7	16 5/16	6	4	20½	6	7⅛	19
3301	28½	2⅝	23¼	23	34	42	13½	13¼	26½	2¼	43½	11¾	30	46	7	16⅜	6	4	20½	6	7 3/16	19
3302	31½	3⅛	25½	25½	32	42	12¾	11¼	29½	2¾	41⅜	12	30	44	8	19 5/16	6	4	23½	6	8⅛	22
3303	31½	3⅛	25½	25½	34	42	13½	13¼	29½	2¾	45½	12	30	46	8	19 7/16	6	4	23½	6	8 3/16	22
3304	28½	3⅛	24	24	32	42	12¾	11¼	26½	2¾	39⅜	12	30	44	7	16 5/16	6	4	20½	6	7⅛	19
3305	28½	3⅛	24	24	34	42	13½	13¼	26½	2¾	43½	12	30	46	7	16⅜	6	4	20½	6	7 3/16	19
3306	31½	3⅛	25½	25½	32	42	12¾	11¼	29½	2¾	41⅜	12	30	44	8	19 5/16	6	4	23½	6	8⅛	22
3307	33½	3½	27⅞	27½	34	42	13½	13¼	31½	3⅛	45½	15	32	49	8	19 7/16	8	6	23½	7	8 3/16	22
3308	28½	3⅛	24	24	32	42	12¾	11¼	26½	2¾	39⅜	12	30	44	7	16 5/16	6	4	20½	6	7⅛	19
3309	30½	3½	26⅜	26	34	42	13½	13¼	28½	3⅛	43½	15	32	49	7	16⅜	8	6	20½	7	7 3/16	19
3310	31½	3⅛	25½	25½	32	48	12¾	11¼	29½	2¾	41⅜	12	30	44	8	19 5/16	6	4	23½	6	8⅛	22
3311	33½	4⅛	29¼	29	34	48	13½	13¼	31½	3⅛	45½	15	32	49	8	19 7/16	8	6	23½	8	8 3/16	22
3312	28½	3⅛	24	24	32	48	12¾	11¼	26½	2¾	39⅜	12	30	44	7	16 5/16	6	4	20½	6	7⅛	19
3313	30½	4⅛	27¾	27½	34	48	13½	13¼	28½	3⅛	43½	15	32	49	7	16⅜	8	6	20½	8	7 3/16	19
3314	35½	4⅞	32	31½	34	48	13½	13¼	31½	4	45½	22¼	44	56	8	19 7/16	10	6	23½	9	8 3/16	22

General Dimensions of Jeffrey Standard Scraper Conveyors



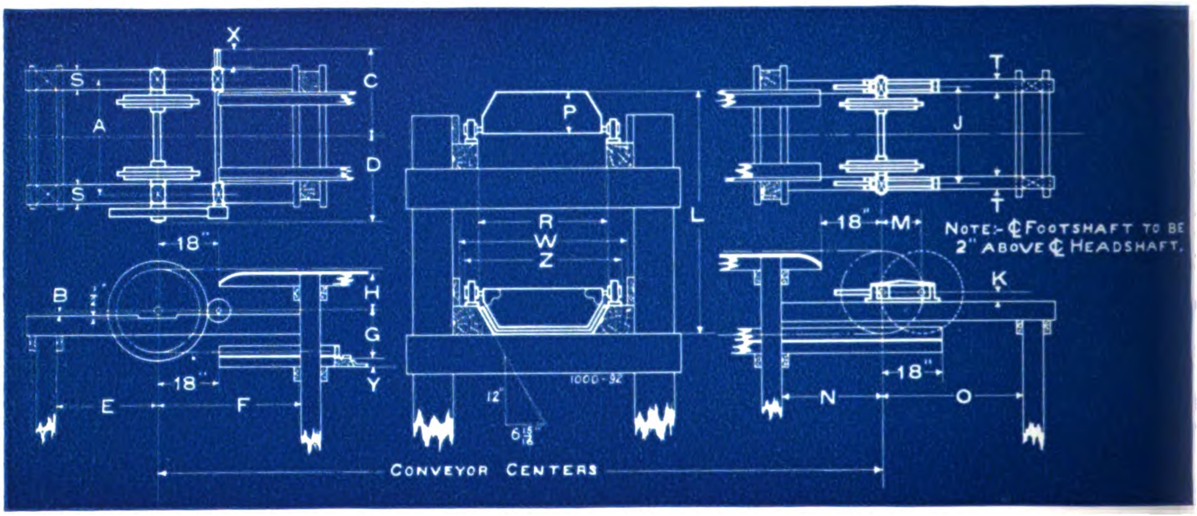
Using Single Strand Steel Link and Vulcan Chain, Steel Scrapers with Roller Attachments

Wood Supports—*For Steel Supports see page 324.* **Dimensions in Inches.**

Conveyor No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	W	X	Y	Z
2938	31	2 5/8	24 1/2	24 1/4	32	42	15 3/4	11 1/4	29	2 1/4	39 3/8	11 3/4	30	44	7	17	6	4	23	6	4 1/8	21 1/2
2939	31	2 5/8	24 1/2	24 1/4	34	42	17 3/4	13 1/4	29	2 1/4	43 1/2	11 3/4	30	46	7	17	6	4	23	6	4 1/8	21 1/2
2940	34	3 1/8	26 3/4	26 3/4	32	42	15 3/4	11 1/4	32	2 3/4	41 3/8	12	30	44	8	20	6	4	26	6	5 1/16	24 1/2
2941	34	3 1/8	26 3/4	26 3/4	34	42	17 3/4	13 1/4	32	2 3/4	45 1/2	12	30	46	8	20	6	4	26	6	5 1/16	24 1/2
2942	31	3 1/8	25 1/4	25 1/4	32	42	15 3/4	11 1/4	29	2 3/4	39 3/8	12	30	44	7	17	6	4	23	6	4 1/8	21 1/2
2943	31	3 1/8	25 1/4	25 1/4	34	42	17 3/4	13 1/4	29	2 3/4	43 1/2	12	30	46	7	17	6	4	23	6	4 1/8	21 1/2
2944	34	3 1/8	26 3/4	26 3/4	32	42	15 3/4	11 1/4	32	2 3/4	41 3/8	12	30	44	8	20	6	4	26	6	5 1/16	24 1/2
2945	36	3 1/2	29 1/8	28 3/4	34	42	17 3/4	13 1/4	34	3 1/8	45 1/2	15	32	49	8	20	8	6	26	7	5 1/16	24 1/2
2946	31	3 1/8	25 1/4	25 1/4	32	42	15 3/4	11 1/4	29	2 3/4	39 3/8	12	30	44	7	17	6	4	23	6	4 1/8	21 1/2
2947	33	3 1/2	27 5/8	27 1/4	34	42	17 3/4	13 1/4	31	3 1/8	43 1/2	15	32	49	7	17	8	6	23	7	4 1/8	21 1/2
2948	34	3 1/8	26 3/4	26 3/4	32	48	15 3/4	11 1/4	32	2 3/4	41 3/8	12	30	44	8	20	6	4	26	6	5 1/16	24 1/2
2949	36	4 1/8	30 1/2	30 1/4	34	48	17 3/4	13 1/4	34	3 1/8	45 1/2	15	32	49	8	20	8	6	26	8	5 1/16	24 1/2
2950	31	3 1/8	25 1/4	25 1/4	32	48	15 3/4	11 1/4	29	2 3/4	39 3/8	12	30	44	7	17	6	4	23	6	4 1/8	21 1/2
2951	33	4 1/8	29	28 3/4	34	48	17 3/4	13 1/4	31	3 1/8	43 1/2	15	32	49	7	17	8	6	23	8	4 1/8	21 1/2
2952	38	4 7/8	33 1/4	32 3/4	34	48	17 3/4	13 1/4	34	4	45 1/2	22 1/4	44	56	8	20	10	6	26	9	5 1/16	24 1/2

Scraper Conveyors

General Dimensions of Jeffrey Standard Scraper Conveyors

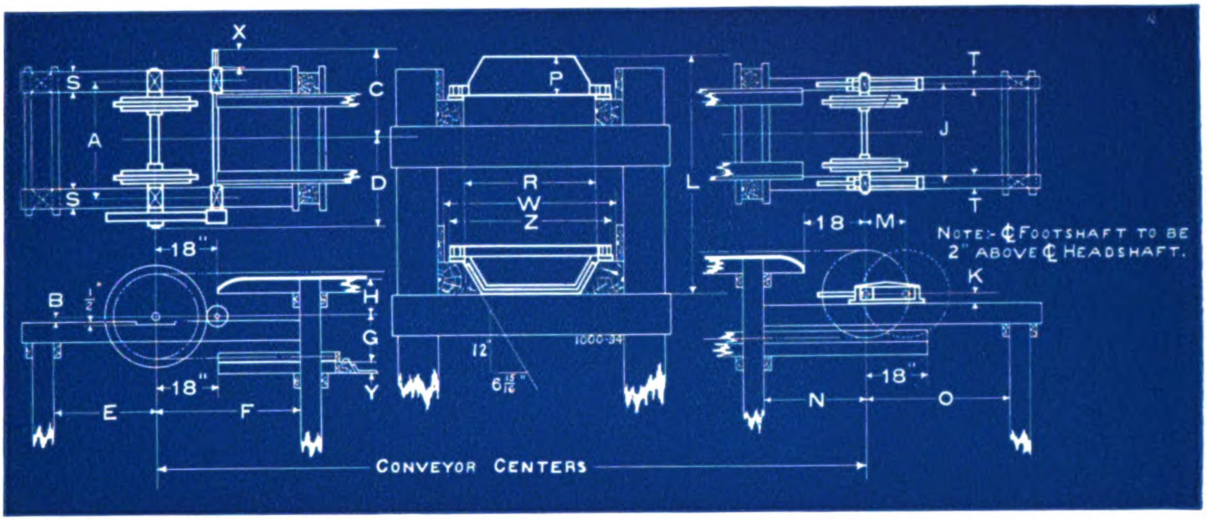


Using Double Strand Malleable Roller Chain with Steel Scrapers

Wood Supports—*For Steel Supports see page 325.* **Dimensions in Inches.**

Conveyor No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	W	X	Y	Z
2953	34¼	1 9/16	25⅜	24⅜	30	42	13⅝	11⅛	29	2¼	35⅞	11¾	30	42	6	19	4	3½	25	6	4 9/16	23½
2954	34¼	2⅝	26⅛	25⅞	30	42	13⅝	10⅛	33¼	2¼	34 11/16	11¾	30	42	6	20	6	3½	26⅞	6	3⅞	25⅜
2955	40¼	2⅝	29⅛	28⅞	32	42	13⅝	10⅛	39¼	2¼	38 11/16	11¾	30	44	8	26	6	3½	32⅞	6	5 11/16	31⅜
2956	33¼	2⅝	25⅝	25⅜	30	42	13⅝	11⅛	29	2¼	35⅞	11¾	30	42	6	19	6	3½	25	6	4 9/16	23½
2957	36	3⅛	27¾	27¾	30	42	13⅝	10⅛	31½	2¾	34 11/16	12	30	42	6	20	6	4	26⅞	6	3⅞	25⅜
2958	42	3⅛	30¾	30¾	32	48	13⅝	10⅛	37½	2¾	38 11/16	12	30	44	8	26	6	4	32⅞	6	5 11/16	31⅜
2959	35	3⅛	27¼	27¼	30	42	13⅝	11⅛	30½	2¾	35⅞	12	30	42	6	19	6	4	25	6	4 9/16	23½
2960	37¾	3½	30	29⅝	30	48	13⅝	10⅛	33¼	3⅛	34 11/16	15	32	46	6	20	8	6	26⅞	7	3⅞	25⅜
2961	43¾	3½	33	32⅝	32	48	13⅝	10⅛	39¼	3⅛	38 11/16	15	32	48	8	26	8	6	32⅞	7	5 11/16	31⅜
2962	36¾	3½	29½	29⅛	30	48	13⅝	11⅛	32¼	3⅛	35⅞	15	32	46	6	19	8	6	25	7	4 9/16	23½
2963	37¾	3½	30	29⅝	30	48	13⅝	10⅛	33¼	3⅛	34 11/16	15	32	46	6	20	8	6	26⅞	7	3⅞	25⅜
2964	46	4⅛	35½	35½	32	48	13⅝	10⅛	41	4	38 11/16	22¼	42	54	8	26	10	8	32⅞	8	5 11/16	31⅜

General Dimensions of Jeffrey Standard Scraper Conveyors



Using Double Strand Vulcan Chain with Steel Scrapers

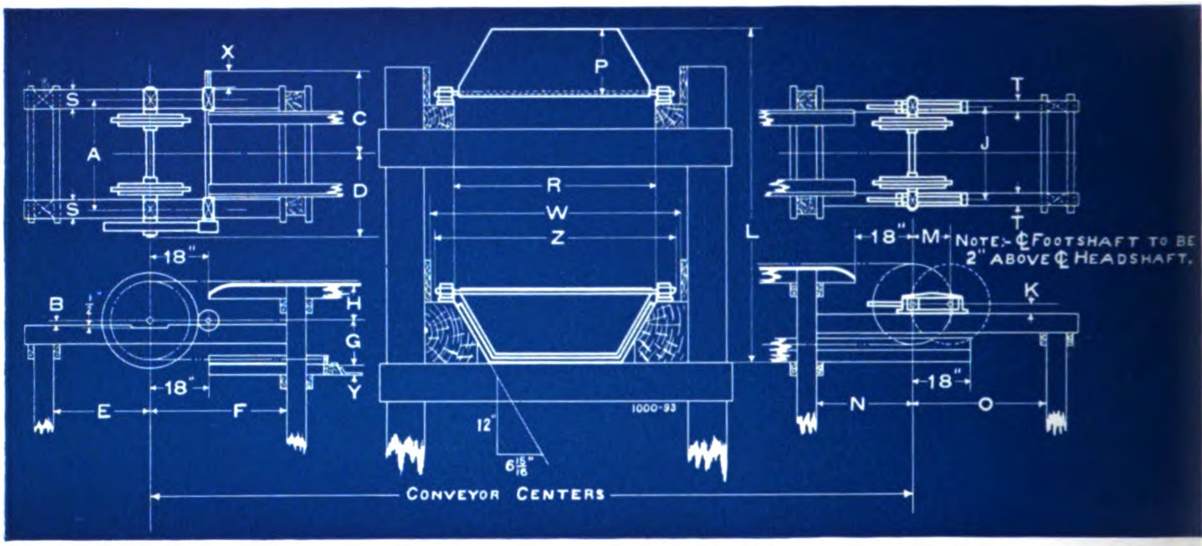
Wood Supports—*For Steel Supports see top of page 327.*

Dimensions in Inches

Conveyor No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	W	X	Y	Z
2965	34¾	1 3/16	25⅝	24⅝	30	42	12¾	10¾	29½	2¼	34 7/16	11¾	30	42	6	19½	4	4	25⅛	6	4¾	23⅝
2966	39¾	2⅝	28⅞	28⅝	32	42	12¾	10¾	35½	2¼	38 7/16	11¾	30	44	8	25½	6	4	31⅛	6	6 11/16	29⅝
2968	33¾	2⅝	25⅞	25⅝	30	42	12¾	10¾	29½	2¼	34 7/16	11¾	30	42	6	19½	6	4	25⅛	6	4¾	23⅝
2969	41½	3⅛	30½	30½	32	48	12¾	10¾	37	2¾	38 7/16	12	30	44	8	25½	6	4	31⅛	6	6 11/16	29⅝
2971	35½	3⅛	27½	27½	30	48	12¾	10¾	31	2¾	34 7/16	12	30	42	6	19½	6	4	25⅛	6	4¾	23⅝
2972	43¼	3½	32¾	32⅜	32	48	12¾	10¾	38¾	3⅛	38 7/16	15	32	48	8	25½	8	6	31⅛	7	6 11/16	29⅝
2973	37¼	3½	29¾	29⅜	30	48	12¾	10¾	32¾	3⅛	34 7/16	15	32	46	6	19½	8	6	25⅛	7	4¾	23⅝

Scraper Conveyors

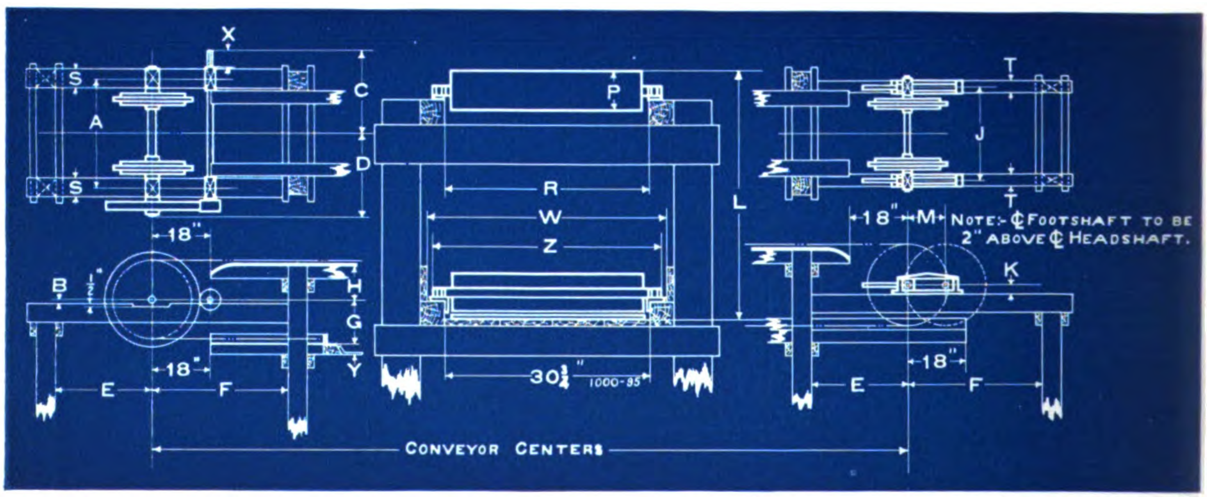
General Dimensions of Jeffrey Standard Scraper Conveyors



Using Double Strand Steel Link Chain with Steel Scrapers

Wood Supports—*For Steel Supports see page 326.* **Dimensions in Inches.**

Conveyor No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	W	X	Y	Z
2974	48	3 1/8	33 3/4	33 3/4	38	48	16 3/4	14 1/2	43 1/2	2 3/4	51 5/8	12	30	50	10 1/4	31 1/2	6	4	39	6	9 7/16	37 1/2
2975	54	3 1/8	36 3/4	36 3/4	38	48	16 3/4	14 1/2	49 1/2	2 3/4	51 5/8	12	30	50	10 1/4	37 1/2	6	4	45	6	9 7/16	43 1/2
2976	52	4 1/8	38 1/2	38 1/2	38	48	16 3/4	14 1/2	45 1/4	3 1/8	51 5/8	15	32	54	10 1/4	31 1/2	8	6	39	8	9 7/16	37 1/2
2977	58	4 1/8	41 1/2	41 1/2	38	48	16 3/4	14 1/2	51 1/4	3 1/8	51 5/8	15	32	54	10 1/4	37 1/2	8	6	45	8	9 7/16	43 1/2
2978	54 1/4	4 7/8	41 3/8	41	38	56	16 3/4	14 1/2	47	4	51 5/8	22 1/4	44	60	10 1/4	31 1/2	10	8	39	9	9 7/16	37 1/2
2979	60 1/4	4 7/8	44 3/8	43 7/8	38	48	16 3/4	14 1/2	53	4	51 5/8	22 1/4	44	60	10 1/4	37 1/2	10	8	45	9	9 7/16	43 1/2
2980	56 1/2	5 1/8	44 1/4	43 1/2	38	48	16 3/4	14 1/2	47	4	51 5/8	22 1/4	44	60	10 1/4	31 1/2	10	8	39	10	9 7/16	37 1/2
2981	64 3/4	5 3/4	50 1/8	49 1/8	38	48	16 3/4	14 1/2	53	4	51 5/8	22 1/4	44	60	10 1/4	37 1/2	12	8	45	11	9 7/16	43 1/2

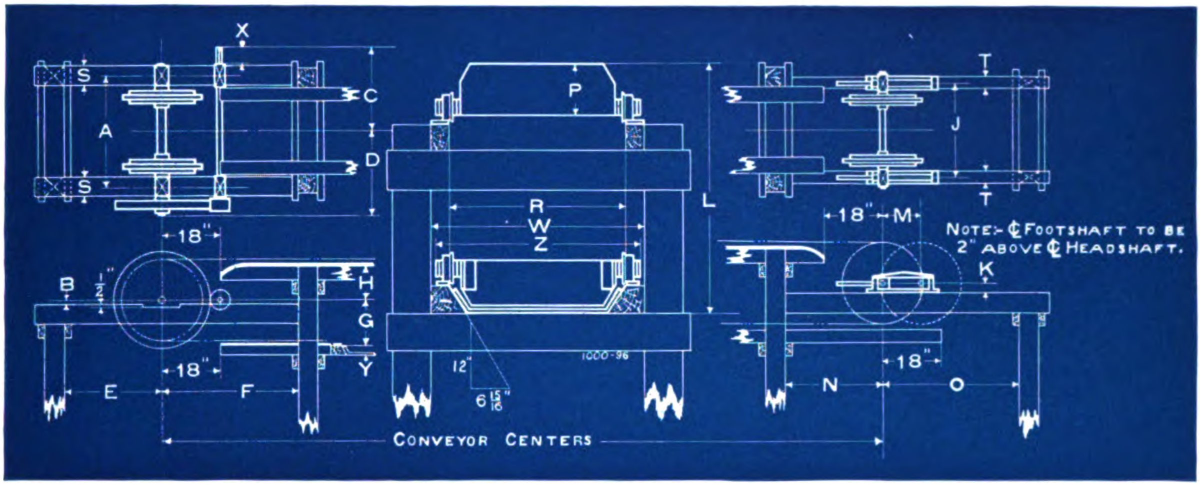


Using Double Strand Vulcan Chain with Shallow Steel Scrapers

Wood Supports—*For Steel Supports see page 327.* **Dimensions in Inches**

Conveyor No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	W	X	Y	Z
2967	47 1/2	3 1/8	33 1/2	33 1/2	30	48	16 5/8	14 5/8	43	2 3/4	37 5/8	12	30	42	6	31 1/2	6	4	37 1/8	6	2 3/8	35 5/8
2970	49 1/4	3 1/2	35 3/4	36	30	48	16 5/8	14 5/8	44 3/4	3 1/8	37 5/8	15	32	46	6	31 1/2	8	6	37 1/8	7	2 3/8	35 5/8

General Dimensions of Jeffrey Standard Scraper Conveyors

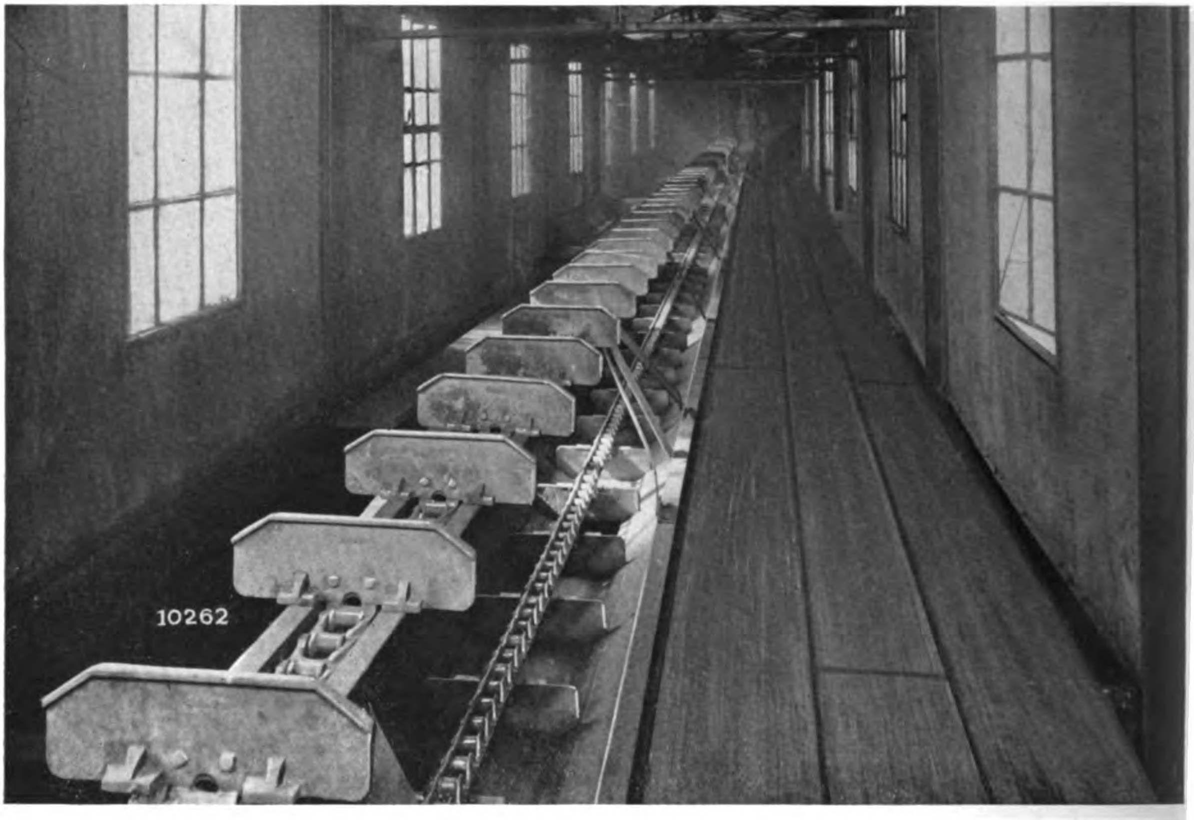


Using Double Strand Steel Thimble Roller Chain with Steel Scrapers

Wood Supports—*For Steel Supports see page 328.* **Dimensions in Inches**

Conveyor No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	W	X	Y	Z
2982	40 1/8	2 5/8	29 1/16	28 13/16	30 3/4	42	14 1/4	9 3/4	39 1/8	2 1/4	38	11 3/4	30	42	8	26 7/8	6	4	32 3/4	6	4 1/4	31 1/4
2983	47 7/8	3 1/8	33 11/16	33 11/16	40	48	20	15 1/2	43 3/8	2 3/4	53 1/2	12	30	52	10	32 7/8	6	4	38 3/4	6	6 1/4	37 1/4
2984	55 5/8	3 1/2	38 15/16	38 9/16	40	48	20	15 1/2	51 1/8	3 1/8	57 1/2	15	32	56	12	38 7/8	8	6	44 3/4	7	8 1/4	43 1/4
2985	43 5/8	3 1/2	32 15/16	32 9/16	30 3/4	48	14 1/4	9 3/4	39 1/8	3 1/8	38	15	32	46	8	26 7/8	8	6	32 3/4	7	4 1/4	31 1/4
2986	51 7/8	4 1/8	38 7/16	38 7/16	40	48	20	15 1/2	45 1/8	3 1/8	53 1/2	15	32	56	10	32 7/8	8	6	38 3/4	8	6 1/4	37 1/4
2987	60 1/8	4 7/8	44 5/16	43 13/16	40	48	20	15 1/2	52 7/8	4	57 1/2	22 1/4	44	62	12	38 7/8	10	8	44 3/4	9	8 1/4	43 1/4
2988	45 7/8	4 1/8	35 7/16	35 3/16	30 3/4	48	14 1/4	9 3/4	39 1/8	3 1/8	38	15	32	46	8	26 7/8	8	6	32 3/4	8	4 1/4	31 1/4
2989	54 1/8	4 7/8	41 5/16	40 13/16	40	56	20	15 1/2	46 7/8	4	53 1/2	22 1/4	44	62	10	32 7/8	10	8	38 3/4	9	6 1/4	37 1/4
2990	62 3/8	5 1/8	47 3/16	46 7/16	40	48	20	15 1/2	52 7/8	4	57 1/2	22 1/4	44	62	12	38 7/8	10	8	44 3/4	10	8 1/4	43 1/4
2991	48 1/8	4 7/8	38 5/16	37 13/16	30 3/4	48	14 1/4	9 3/4	40 7/8	4	38	22 1/4	44	52	8	26 7/8	10	8	32 3/4	9	4 1/4	31 1/4
2992	56 3/8	5 1/8	44 3/16	43 7/16	40	48	20	15 1/2	46 7/8	4	53 1/2	22 1/4	44	62	10	32 7/8	10	8	38 3/4	10	6 1/4	37 1/4
2993	64 5/8	5 3/4	50 1/16	49 1/16	40	48	20	15 1/2	52 7/8	4	57 1/2	22 1/4	44	62	12	38 7/8	12	8	44 3/4	11	8 1/4	43 1/4

Scraper Conveyors



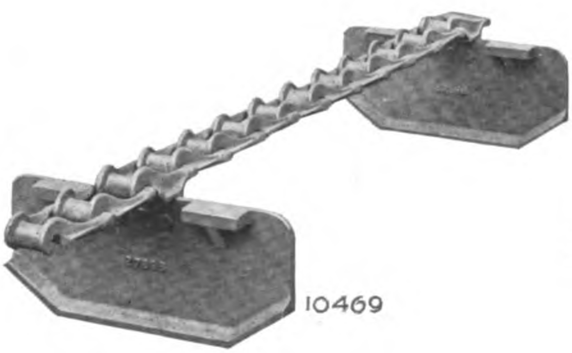
An ideal conveying equipment for small capacities upon an all steel supporting structure. The return strand of Malleable Iron Scrapers in the above illustration is carried upon angle iron runways, supported at intervals from carrying trough underneath.

Scraper Conveyors do not Require much Steel for their Support

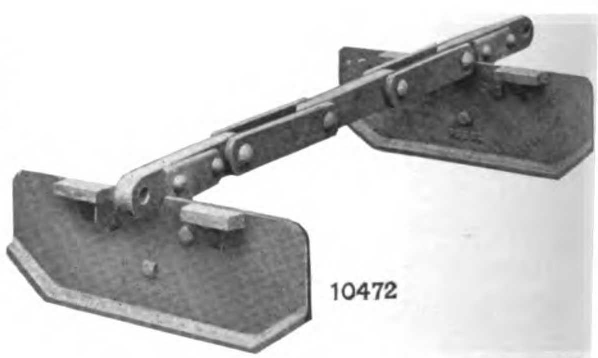
A Jeffrey Scraper Conveyor does not consist of much machinery within itself and does not require much wood or steel for its support. It has no complicated parts either in its chain or scrapers. In an emergency it may be repaired by an unskilled mechanic.

Any plant whose requirements do not exceed 63 tons per hour of small coal as listed in the opposite table, can readily adapt this type of Scraper Conveyor illustrated above, at a very low initial cost and small operating expense.

Specify Conveyor by Number given in Table.



Jeffrey Number 88 Detachable Chain with 10 x 5 or 12 x 5 inch Malleable Scrapers spaced every 26 inches or 103 Detachable with 15 x 5 inch Malleable Scrapers spaced every 24 inches.



Jeffrey Number 526 Vulcan Steel Chain with 12 x 5 or 15 x 5 inch Malleable Scrapers spaced every 24 inches.

Specifications of Jeffrey Standard Scraper Conveyors using Single Strand of Detachable and Vulcan Chain with Malleable Scrapers

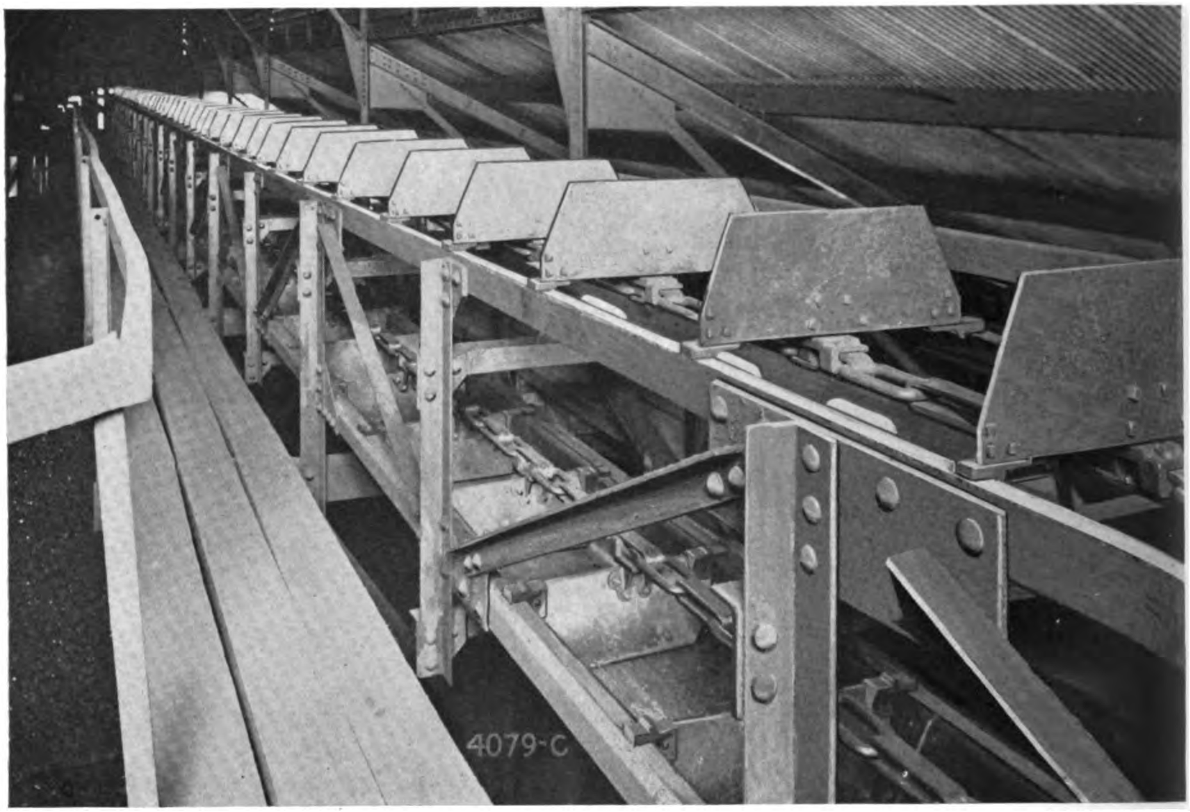
Steel Supports—*For Wood Supports see page 283.*

Length of Conveyor	0 to 50 ft. Centers					51 to 100 ft. Centers					101 to 150 ft. Centers			
No. of Conveyor	**2994**	**2995**	**2996**	**2997**	**2998**	**2999**	**3000**	**3001**	**3002**	**3003**	**3004**	**3005**	**3006**	**3007**
Size of Material—Inches														
Average size of Material to be handled	1½	2	2	3	3	1½	2	2	3	3	1½	2	3	3
Maximum size; not to exceed 10% of whole	3	4	4	5	5	3	4	4	5	5	3	4	5	5
Capacity—In tons per hr.														
Horizontal	42	50	50	63	63	42	50	50	63	63	42	50	63	63
15° Incline	23	27	27	33	33	23	27	27	33	33	0	27	33	0
30° Incline	16	20	20	24	24	16	20	20	24	24	0	20	0	0
45° Incline	14	17	17	20	20	14	17	17	20	20	0	0	0	0
Size Scraper—Inches														
Length	10	12	12	15	15	10	12	12	15	15	10	12	15	15
Depth	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Mall. Iron Pattern No.	28026	27898	27898	28656	28656	28026	27898	27898	28656	28656	28026	27898	28656	28656
Spacing—Inches	26	26	24	24.56	24	26	26	24	24.56	24	26	24	24.56	24
Chain														
Number and Style	88J	88J	526V	103J	526V	88J	88J	526V	103J	526V	88J	526V	103J	526V
Pitch—Inches	2.6	2.6	6	3.07	6	2.6	2.6	6.	3.07	6	2.6	6.	3.07	6.
Attachments	F-2	F-2	A-½	F-2	A-½	F-2	F-2	A-½	F-2	A-½	F-2	A-½	F-2	A-½
Working Strength—Lbs.	960	960	1640	1600	1640	960	960	1640	1600	1640	960	1640	1600	1640
H. P. At Countershaft*	1.3	1.5	1.8	1.9	2.1	2.6	3.0	3.6	3.8	4.2	3.9	5.3	5.8	6.2
Head Shaft														
Diameter—Inches	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16	2 7/16	2 15/16	2 15/16	2 15/16
Rev. per Min.	16⅔	16⅔	16⅔	16⅓	16⅔	16⅔	16⅔	16⅔	16⅔	16⅔	16⅔	16⅔	16⅔	16⅔
Size Sprocket—Inches	23	23	23½	23½	23½	23	23	23½	23½	23½	23	23½	23½	23½
Gear Diam.—Inches	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83
Gear Pitch—Inches	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼
Gear Face—Inches	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Countershaft														
Diameter—Inches	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	2 7/16	2 7/16	2 7/16
Rev. per Min.	83	83	83	83	83	83	83	83	83	83	83	83	83	83
Pinion Diam.—Inches	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01
Pinion Face—Inches	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼
Foot Shaft														
Diameter—Inches	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 7/16	1 15/16	1 15/16	1 15/16
Size Sprocket—Inches	23	23	23½	23½	23½	23	23	23½	23½	23½	23	23½	23½	23½
Trough														
Thickness or Gauge	10	10	10	10	3/16	10	10	10	10	3/16	10	10	10	3/16
Approx. Shipping Wgt.—Lbs.														
Terminals, Complete	630	630	680	670	770	730	730	770	760	950	730	930	920	950
Chain and Flights per ft. Ctrs.	10	9	16½	13	17	10	9	16½	13	17	10	16½	13	17
Trough and Bar Trackage per Ft. Ctrs.	10	11	11	12½	16	10	11	11	12½	16	10	11	12½	16

*For Maximum Centers for all inclinations and corresponding capacities.

For Erection Dimensions of above Conveyors, see page 322.

Scraper Conveyors



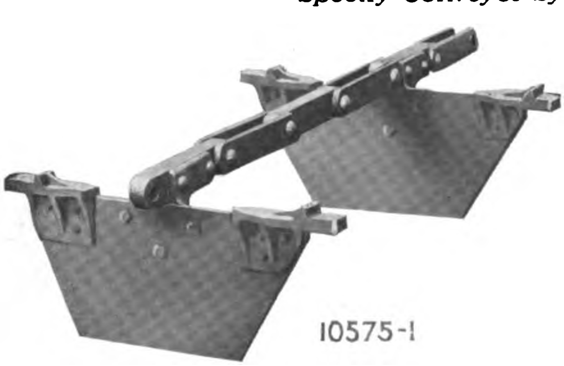
The Jeffrey Scraper Conveyor can be readily inspected. It consists of no complicated parts either in its steel chains or its scrapers. Here the scraper conveyor is used for distributing coal over a number of bunkers in front of boilers below.

Chains used on Jeffrey Scraper Conveyors were Selected for their Wear Resisting Qualities

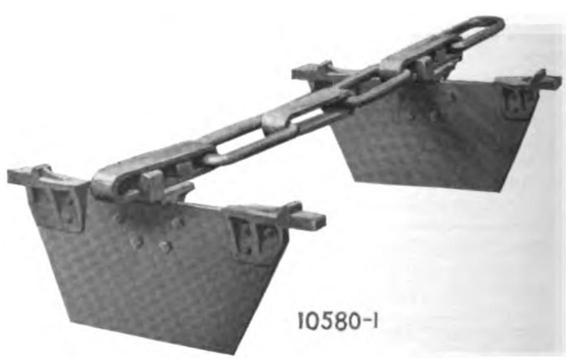
MALLEABLE iron wearing blocks are often used on the ends of scrapers instead of rollers as described on page 310. The two types of chains used with this conveying unit are simple in construction.

The Number 526 Vulcan Chain of 1640 pounds working strength consists of all steel side bars with riveted steel pins. This chain gives excellent service in ordinary single or double strand conveyors. The Flat and Round Steel Link, Number 518 is an all steel welded chain having the strength of the ordinary welded steel coil chain but with the added advantage of the wearing surface of the flat links.

Specify Conveyor by Number given in Table.



Jeffrey Number 526 Vulcan Chain with 15 x 7 or 18 x 8 inch steel scrapers spaced every 24 inches. The scrapers are fitted with malleable iron wearing blocks.



Jeffrey Number 518 Flat and Round Steel Link Chain with 15 x 7 or 18 x 8 inch steel scrapers spaced every 32 inches. The scrapers are fitted with malleable iron wearing blocks.

Specifications of Jeffrey Standard Scraper Conveyors using Single Strand Steel Link and Vulcan Chain, Steel Scrapers with Wearing Blocks

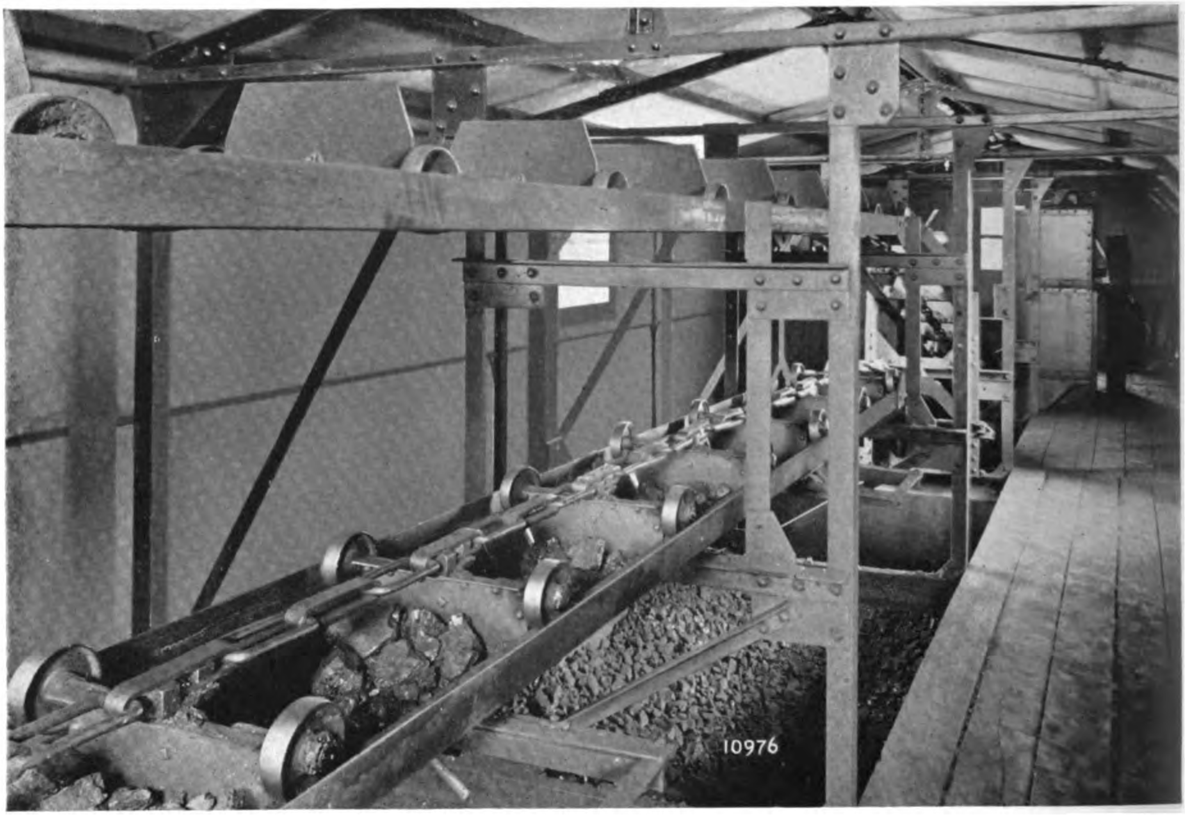
Steel Supports—*For Wood Supports see page 285.*

Length of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers				101 to 150 ft. Centers				151 to 200ft. Centers		
No. of Conveyor	**3315**	**3316**	**3317**	**3318**	**3319**	**3320**	**3321**	**3322**	**3323**	**3324**	**3325**	**3326**	**3327**	**3328**	**3329**
Size of Material—In.															
Avge. size of Material to be handled	1¾	1¾	3	3	1¾	1¾	3	3	1¾	1¾	3	3	1¾	1¾	3
Max. size; not to exceed 10% of whole	3½	3½	5	5	3½	3½	5	5	3½	3½	5	5	3½	3½	5
Capacity—In tons per hr.															
Horizontal	48	48	70	70	48	48	70	70	48	48	70	70	48	48	70
15° Incline	26	26	38	38	26	26	38	38	26	26	0	38	0	26	38
30° Incline	19	19	27	27	19	19	0	27	0	19	0	27	0	19	27
45° Incline	16	16	23	23	16	16	0	23	0	16	0	23	0	16	23
Size Scraper—In.															
Length	15	15	18	18	15	15	18	18	15	15	18	18	15	15	18
Depth	7	7	8	8	7	7	8	8	7	7	8	8	7	7	8
Thickness of Steel	3/16	3/16	¼	¼	3/16	3/16	¼	¼	3/16	3/16	¼	¼	3/16	3/16	¼
Spacing—Inches	24	32	24	32	24	32	24	32	24	32	24	32	24	32	32
Chain															
Number and Style	526 V	518 S.L	526 V	518 S.L	526 V	518 S.L	526 V	518 S.L	526 V	518 S.L	526 V	518 S.L	526 V	518 S.L	518 S.L
Pitch—Inches	6	8	6	8	6	8	6	8	6	8	6	8	6	8	8
Attachments	A½	A1	A½	A1	A½	A1	A½	A1	A½	A1	A½	A1	A½	A1	A1
Work. Strength-Lbs.	1640	5200	1640	5200	1640	5200	1640	5200	1640	5200	1640	5200	1640	5200	5200
H. P. at Countershaft*	1.8	1.7	2.4	2.3	3.7	3.5	4.9	4.6	5.5	5.2	7.3	7.0	7.4	7.0	9.3
Head Shaft															
Diameter—Inches	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	3 7/16	2 15/16	3 7/16	2 15/16	3 15/16	2 15/16	3 15/16	4 7/16
Rev. per Min.	16⅔	15	16⅔	15	16⅔	15	16⅔	15	16⅔	15	16⅔	15	16⅔	15	15
Size Sprocket—In.	23½	26	23½	26	23½	26	23½	26	23½	26	23½	26	23½	26	26
Gear Diam.—In.	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	40.12	40.12	40.12	40.12	40.12
Gear Pitch—In.	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1½	1½	1½	1½	1½
Gear Face—In.	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4
Countershaft															
Diameter—In.	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 11/16	2 7/16	2 11/16	2 7/16	2 15/16	2 7/16	2 15/16	3 7/16
Rev. per Min.	83	75	83	75	83	75	83	75	83	75	93	84	93	84	84
Pinion Diam.—In.	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	7.22	7.22	7.22	7.22	7.22
Pinion Face—In.	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	4½	4½	4½	4½	4½
Foot Shaft															
Diameter—In.	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	2 7/16	1 15/16	2 7/16	1 15/16	2 7/16	2 15/16
Size Sprocket—In.	23½	26	23½	26	23½	26	23½	26	23½	26	23½	26	23½	26	26
Trough															
Thickness or Gauge	10	3/16	10	3/16	10	3/16	10	3/16	10	3/16	10	3/16	10	3/16	3/16
Approx. Shipping Wgt.—Lbs.															
Terminals Complete	830	940	1040	1145	1020	1120	1040	1310	1020	1280	1280	1680	1230	1580	2120
Chain and Flights per Ft. Ctrs.	24	20½	28	24½	24	20½	28	24½	24	20½	28	24½	24	20½	24½
Trough and Bar Trackage per Ft. Ctrs.	18½	22½	21	25½	18½	22½	21	25½	18½	22½	21	25½	18½	22½	25½

* For Maximum Centers for all inclinations and corresponding capacities.

For Erection Dimensions of above Conveyors, see page 323.

Scraper Conveyors



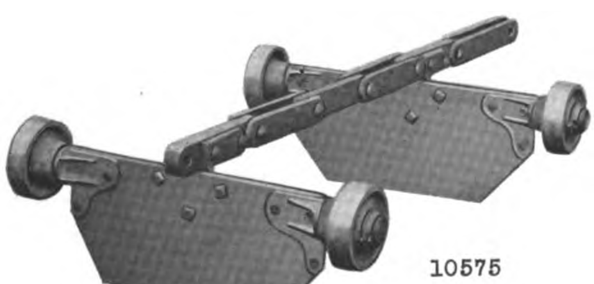
Jeffrey Scraper Conveyor can be loaded at any point along its length and discharged at numerous places by means of valves in the carrying trough.

Low Cost of Operation Appeals to the Small Manufacturing Plant

THE low first cost and simplicity of operation with correspondingly great reliability in service of a Single Strand Conveyor highly recommends it for the proper distribution of coal into storage bins for small plants such as retail coal pockets, small power houses, etc.

Two kinds of all steel chains are used with this type of Conveyor, namely the riveted 526 Vulcan with 1640 pounds working strength, and the welded 518 Flat and Round Steel Link Chain with 5200 pounds working strength.

Specify Conveyor by Number given in Table.



Jeffrey Number 526 Vulcan Chain fitted with either 15 x 7 or 18 x 8 inch Scrapers with roller attachments. The scrapers are spaced every 24 inches.

Jeffrey Number 518 Flat and Round Steel Link Chain fitted with either 15 x 7 or 18 x 8 inch Scrapers with roller attachments. The scrapers are spaced every 32 inches.

Specifications of Jeffrey Standard Scraper Conveyors using Single Strand Steel Link and Vulcan Chain, Steel Scrapers with Roller Attachments

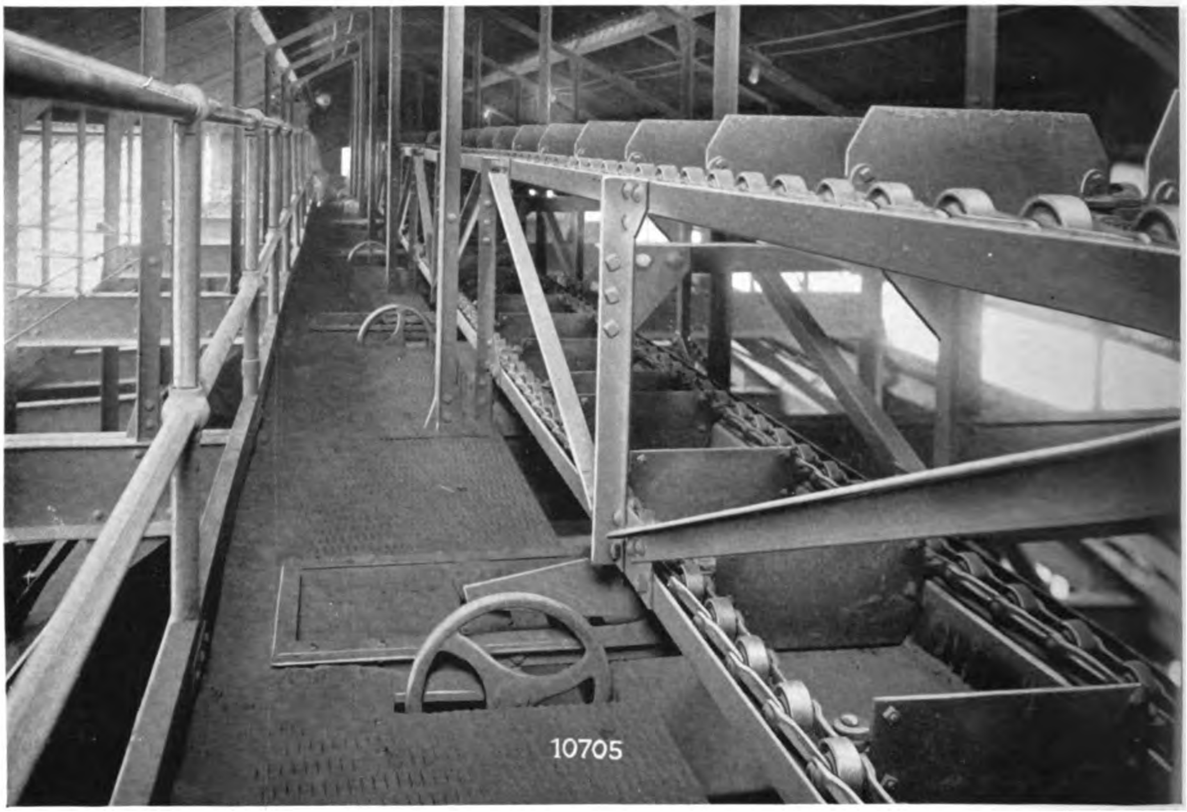
Steel Supports—*For Wood Supports see page 287.*

Length of Conveyor	0 to 50 ft. Centers				51 to 100 ft. Centers				101 to 150 ft. Centers				151to200ft.Centers		
No. of Conveyor	**3008**	**3009**	**3010**	**3011**	**3012**	**3013**	**3137**	**3138**	**3139**	**3140**	**3141**	**3142**	**3143**	**3144**	**3145**
Size of Material—In.															
Avge. size of Material to be handled	1¾	1¾	3	3	1¾	1¾	3	3	1¾	1¾	3	3	1¾	1¾	3
Max. size; not to exceed 10% of whole	3½	3½	5	5	3½	3½	5	5	3½	3½	5	5	3½	3½	5
Capacity—In tons per hr.															
Horizontal	48	48	70	70	48	48	70	70	48	48	70	70	48	48	70
15° Incline	26	26	38	38	26	26	38	38	26	26	0	38	0	26	38
30° Incline	19	19	27	27	19	19	0	27	0	19	0	27	0	19	27
45° Incline	16	16	23	23	16	16	0	23	0	16	0	23	0	16	23
Size Scraper—In.															
Length	15	15	18	18	15	15	18	18	15	15	18	18	15	15	18
Depth	7	7	8	8	7	7	8	8	7	7	8	8	7	7	8
Thickness of Steel	3/16	3/16	¼	¼	3/16	3/16	¼	¼	3/16	3/16	¼	¼	3/16	3/16	¼
Spacing—Inches	24	32	24	32	24	32	24	32	24	32	24	32	24	32	32
Chain															
Number and Style	526 V	518 S.L	526 V	518 S.L	526 V	518 S.L	526 V	518 S.L	526 V	518 S.L	526 V	518 S.L	526 V	518 S.L	518 S.L.
Pitch—Inches	6	8	6	8	6	8	6	8	6	8	6	8	6	8	8
Attachments	A½	A1	A½	A1	A½	A1	A½	A1	A½	A1	A½	A1	A½	A1	A1
Work. Strength—Lbs.	1640	5200	1640	5200	1640	5200	1640	5200	1640	5200	1640	5200	1640	5200	5200
H. P. at Countershaft*	1.8	1.7	2.4	2.3	3.6	3.4	4.6	4.6	5.1	5.1	6.7	6.9	6.7	6.8	9.2
Head Shaft															
Diameter—Inches	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16	3 7/16	2 15/16	3 7/16	2 15/16	3 15/16	2 15/16	3 15/16	4 7/16
Rev. per Min.	16⅔	15	16⅔	15	16⅔	15	16⅔	15	16⅔	15	16⅔	15	16⅔	15	15
Size Sprocket—In.	23½	26	23½	26	23½	26	23½	26	23½	26	23½	26	23½	26	26
Gear Diam.—In.	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	29.83	40.12	40.12	40.12	40.12	40.12
Gear Pitch—In.	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1½	1½	1½	1½	1½
Gear Face—In.	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4
Countershaft															
Diameter—In.	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 7/16	2 11/16	2 7/16	2 11/16	2 7/16	2 15/16	2 7/16	2 15/16	3 7/16
Rev. per Min.	83	75	83	75	83	75	83	75	83	75	93	84	93	84	84
Pinion Diam.—In.	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	7.22	7.22	7.22	7.22	7.22
Pinion Face—In.	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	3¼	4½	4½	4½	4½	4½
Foot Shaft															
Diameter—In.	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	1 15/16	2 7/16	1 15/16	2 7/16	1 15/16	2 7/16	2 15/16
Size Sprocket—In.	23½	26	23½	26	23½	26	23½	26	23½	26	23½	26	23½	26	26
Trough															
Thickness or Gauge	10	3/16	10	3/16	10	3/16	10	3/16	10	3/16	10	3/16	10	3/16	3/16
Approx. Shipping Wgt.—Lbs.															
Terminals Complete	830	940	1040	1145	1020	1120	1040	1310	1020	1280	1280	1680	1230	1580	2120
Chain and Flights per Ft. Ctrs.	30	26	34	30	30	26	34	30	30	26	34	30	30	26	30
Trough and Bar Trackage per Ft. Ctrs.	21	26	23½	28	21	26	23½	28	21	26	23½	28	21	26	28

*For Maximum Centers for all inclinations and corresponding capacities.

For Erection Dimensions of above Conveyors, see page 324.

Scraper Conveyors



Jeffrey Double Strand Malleable Roller Scraper Conveyor as illustrated here is adapted for an average 8 to 10 hour daily service in boiler houses where the capacity requirements are in excess of 50 to 60 tons per hour of coal.

Rollers in Chain make Conveyors pull Easier

THE Malleable Roller Chain used on this type of conveying unit is so constructed that the rollers revolve on bosses cast integral with the side bars, these bosses acting as thimbles.

With the pins held rigidly in place in the outside bars, practically all wear is confined to the comparatively long surface of the bosses.

This Conveyor is adapted for handling material up to 6 or 8 inch cubes at the rate of from 60 to 112 tons per hour. Number 14½ Malleable Roller Chain has a 1600 pound working strength and 126C Malleable Roller Chain has a working strength of 3100 pounds.

Specify Conveyor by Number given in Table.

Jeffrey Number 14½ Malleable Roller Chain fitted with 18 x 6 inch steel scrapers spaced every 24 inches, or Number 126C Malleable Roller Chain fitted with either 18 x 6 or 24 x 8 inch steel scrapers spaced every 24 inches

Specifications of Jeffrey Standard Scraper Conveyors using Double Strand Malleable Roller Chain with Steel Scrapers

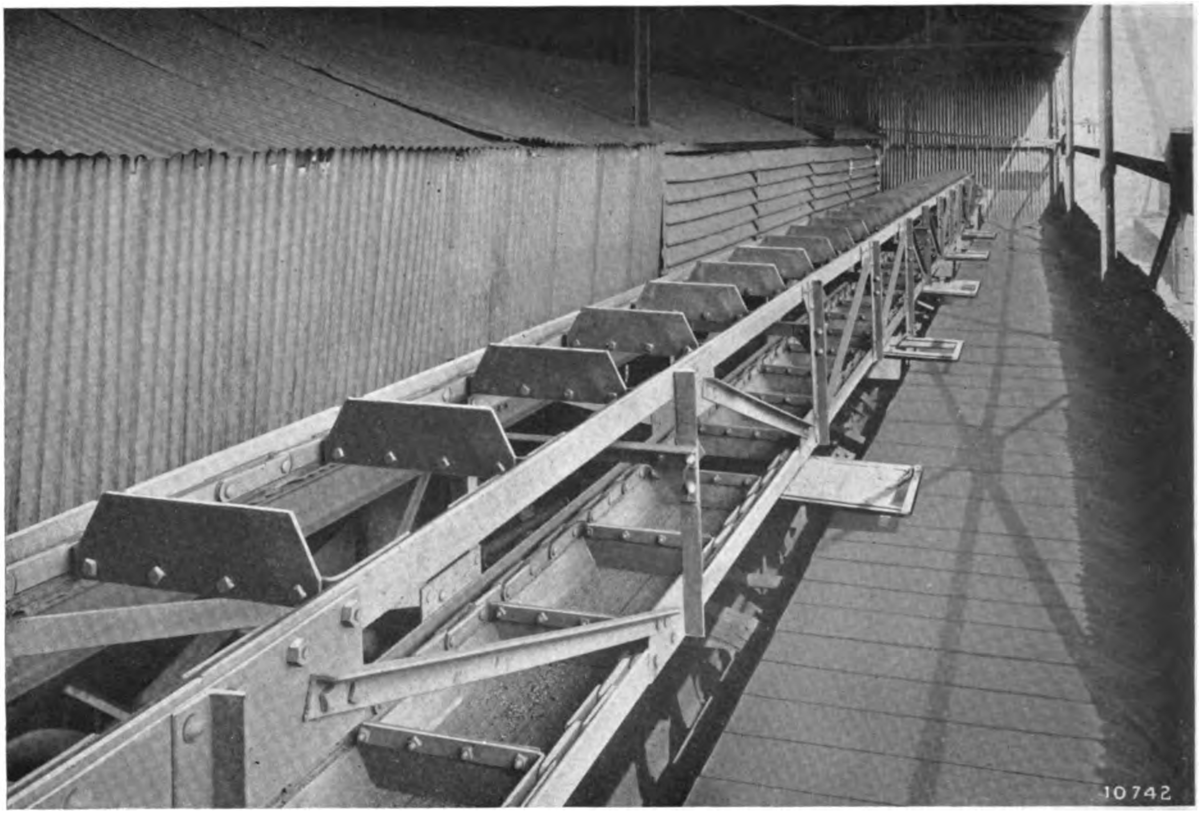
Steel Supports—*For Wood Supports see page 289.*

Lgth. of Conveyor	0 to 50 ft. Centers			51 to 100 ft. Centers			101 to 150 ft. Centers			151 to 200 ft. Centers		
No. of Conveyor	3146	3147	3148	3149	3150	3151	3152	3153	3154	3155	3156	3157
Size of Material—In.												
Avge. size Material to be handled	6	6	8	6	6	8	6	6	8	6	6	8
Max. size; not to exceed 10% of whole	9	9	12	9	9	12	9	9	12	9	9	12
Capacity—In tons per hr.												
Horizontal	60	60	112	60	60	112	60	60	112	60	60	112
15° Incline	32	32	60	32	32	60	32	32	60	32	32	60
30° Incline	23	23	44	23	23	44	23	23	44	23	23	44
45° Incline	20	20	37	20	20	37	20	20	37	20	20	37
Size Scraper—In.												
Length	18	18	24	18	18	24	18	18	24	18	18	24
Depth	6	6	8	6	6	8	6	6	8	6	6	8
Thickness of Steel	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
Spacing—Inches	24	24	24	24	24	24	24	24	24	24	24	24
Chain												
Number and Style	14½ M.R.	126 C	126 C	14½ M.R.	126 C	126 C	14½ M.R.	126 C	126 C	14½ M.R.	126 C	126 C
Pitch—Inches	4.01	6	6	4.01	6	6	4.01	6	6	4.01	6	6
Attachments	T & M1 Sp.	T-Hy & M1 Sp.	T-Hy & M1 Sp.	T & M1 Sp.	T-Hy & M1 Sp.	T-Hy & M1 Sp.	T & M1 Sp.	T-Hy & M1 Sp.	T-Hy & M1 Sp.	T & M1 Sp.	T-Hy & M1 Sp.	T-Hy & M1 Sp.
Work Strength—Lbs.	1600	3100	3100	1600	3100	3100	1600	3100	3100	1600	3100	3100
H. P. At Countershaft*	1.9	2.5	3.8	3.9	5.0	7.6	5.8	7.5	11.4	7.8	10	15.2
Head Shaft												
Diameter—In.	1 15/16	2 7/16	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	3 7/16	3 7/16	3 7/16	3 7/16	3 15/16
Rev. per Min.	15½	16⅔	16⅔	15½	16⅔	16⅔	15½	16⅔	16⅔	15½	16⅔	16⅔
Size Sprocket—In.	24¾	23¾	23¾	24¾	23¾	23¾	24¾	23¾	23¾	24¾	23¾	23¾
Gear Diam.—In.	29.83	29.83	29.83	29.83	29.83	40.12	29.83	40.12	40.12	40.12	40.12	41.24
Gear Pitch—In.	1¼	1¼	1¼	1¼	1¼	1½	1¼	1½	1½	1½	1½	1¾
Gear Face—In.	3	3	3	3	3	4	3	4	4	4	4	6
Countershaft												
Diameter—In.	1 7/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 11/16	2 11/16	2 11/16	2 11/16	2 15/16
Rev. per Min.	78	83	83	78	83	93	78	93	93	87	93	82
Pinion Diam.—In.	6.01	6.01	6.01	6.01	6.01	7.22	6.01	7.22	7.22	7.22	7.22	8.42
Pinion Face—In.	3¼	3¼	3¼	3¼	3¼	4½	3¼	4½	4½	4½	4½	6⅜
Foot Shaft												
Diameter—In.	1 7/16	1 7/16	1 7/16	1 7/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 15/16
Size Sprocket—In.	24¾	23¾	23¾	24¾	23¾	23¾	24¾	23¾	23¾	24¾	23¾	23¾
Trough												
Thickness or Gauge	10	3/16	3/16	10	3/16	3/16	10	3/16	3/16	10	3/16	3/16
Approx. Shipping Wgt.—Lbs.												
Terminals, Complete	860	1300	1340	970	1500	1780	1160	1900	1920	1560	1900	2660
Chain and Flights per Ft. Ctrs.	24	42	48	24	42	48	24	42	48	24	42	48
Trough and Bar Trackage per Ft. Ctrs.	22	28	33½	22	28	33½	22	28	33½	22	28	33½

* For Maximum Centers for all inclinations and corresponding capacities.

For Erection Dimensions of above Conveyors, see page 325.

Scraper Conveyors



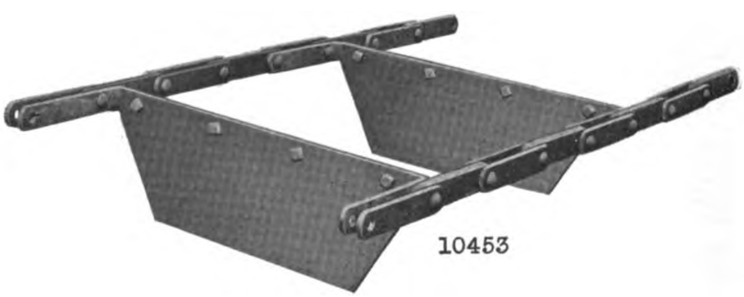
Jeffrey Scraper Conveyors can discharge material at numerous places by means of valves in carrying trough operated by hand as illustrated here, or by hand chain to rack and pinion on valves controlled from Boiler Room floor.

Simple in Construction and Very Rigid

WHERE uninterrupted daily service is essential as in nearly all manufacturing plants, the Vulcan type chain with its forged cross bar attachment re-enforcing the scrapers forms a very dependable and rigid conveyor. The Number 526 Jeffrey Vulcan Steel Chain used on these conveying units, has a working strength of 1640 pounds.

Only light steel construction is required for the support of the Jeffrey Standard Scraper Conveyor between terminals as is plainly shown in illustration. Note the manner in which the valves can be spaced along the conveyor to permit coal to be distributed at a number of points.

Specify Conveyor by Number given in Table.



Jeffrey Number 526 Vulcan Chain with 18 x 6 or 24 x 8 inch steel scrapers spaced every 24 inches.

Scraper Conveyors

Specifications of Jeffrey Standard Scraper Conveyors using Double Strand Vulcan Chain with Steel Scrapers.

Steel Supports—*For Wood Supports see page 291.*

Length of Conveyor	0 to 50 ft. Centers		51 to 100 ft. Centers		101 to 150 ft. Centers		151 to 200 ft. Centers
No. of Conveyor	**3158**	**3159**	**3161**	**3162**	**3164**	**3165**	**3166**
Size of Material—In.							
Average size of Material to be handled	6	8	6	8	6	8	6
Maximum size; not to exceed 10% of whole	9	12	9	12	9	12	9
Capacity—In tons per hr.							
Horizontal	60	112	60	112	60	112	60
15° Incline	32	60	32	60	32	60	32
30° Incline	23	44	23	44	23	0	0
45° Incline	20	37	20	37	20	0	0
Size Scraper—In.							
Length	18	24	18	24	18	24	18
Depth	6	8	6	8	6	8	6
Thickness of Steel	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Spacing—Inches	24	24	24	24	24	24	24
Chain							
Number and Style	526V	526V	526V	526V	526V	526V	526V
Pitch—Inches	6	6	6	6	6	6	6
Attachments	Bent Side Bar	Bent Side Bar	Bent Side Bar	Bent Side Bar	Bent Side Bar	Bent Side Bar	Bent Side Bar
Working Strength -Lbs.	1640	1640	1640	1640	1640	1640	1640
H. P. at Countershaft*	2.6	4.0	5.2	8.0	7.8	12.1	10.4
Head Shaft							
Diameter—Inches	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$	$3\frac{7}{16}$
Rev. per Min.	$16\frac{2}{3}$	$16\frac{2}{3}$	$16\frac{2}{3}$	$16\frac{2}{3}$	$16\frac{2}{3}$	$16\frac{2}{3}$	$16\frac{2}{3}$
Size Sprocket—Inches	$23\frac{1}{2}$	$23\frac{1}{2}$	$23\frac{1}{2}$	$23\frac{1}{2}$	$23\frac{1}{2}$	$23\frac{1}{2}$	$23\frac{1}{2}$
Gear Diam.—Inches	29.83	29.83	29.83	40.12	40.12	40.12	40.12
Gear Pitch—Inches	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$
Gear Face—Inches	3	3	3	4	4	4	4
Countershaft							
Diameter—Inches	$1\frac{7}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{11}{16}$	$2\frac{11}{16}$
Rev. per Min.	83	83	83	93	93	93	93
Pinion Diam.—Inches	6.01	6.01	6.01	7.22	7.22	7.22	7.22
Pinion Face—Inches	$3\frac{1}{4}$	$3\frac{1}{4}$	$3\frac{1}{4}$	$4\frac{1}{2}$	$4\frac{1}{2}$	$4\frac{1}{2}$	$4\frac{1}{2}$
Foot Shaft							
Diameter—Inches	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$
Size Sprocket—Inches	$23\frac{1}{2}$	$23\frac{1}{2}$	$23\frac{1}{2}$	$23\frac{1}{2}$	$23\frac{1}{2}$	$23\frac{1}{2}$	$23\frac{1}{2}$
Trough							
Thickness—Inches	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$
Approx. Shipping Wgt.—Lbs.							
Terminals, Complete	940	1090	1060	1510	1480	1660	1650
Chain and Flights per Ft. Ctrs.	32	38	32	38	32	38	32
Trough and Bar Trackage per Ft. Ctrs.	$27\frac{1}{2}$	33	$27\frac{1}{2}$	33	$27\frac{1}{2}$	33	$27\frac{1}{2}$

* For Maximum Centers for all inclinations and corresponding capacities.

For Erection Dimensions of above Conveyors, see page 327.

Scraper Conveyors

Cross Bars extending between two strands of Flat and Round Steel Link Chain with the cross bar inserted in the flat link of the chain and the scrapers bolted to the cross bars make a very durable type of conveyor for handling large capacities.

Capable of Handling a Capacity of 240 Tons per Hour

THIS conveying unit is adapted for handling material up to 10 or 12 inch cubes at the rate of 195 to 241 tons per hour.

These larger sizes of Jeffrey Standard Scrapers acting as Retarding Conveyors are standing years of hard service in the handling of large capacities with a comparatively small consumption of power and very little upkeep.

Specify Conveyor by Number given in Table.

Jeffrey Number 518 Flat and Round Steel Link Chain fitted with 30 x 10 and 36 x 10 inch Scrapers spaced every 32 inches.

Specifications of Jeffrey Standard Scraper Conveyors using Double Strand Steel Link Chain with Steel Scrapers

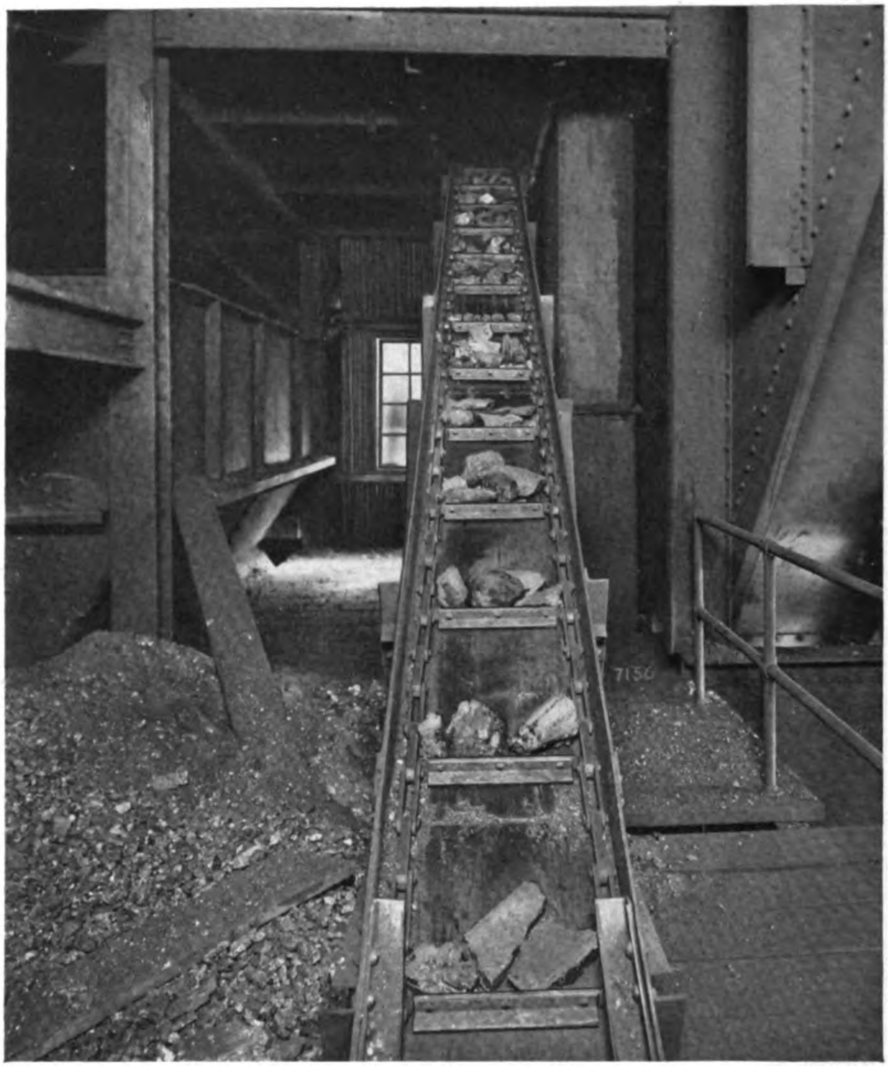
Steel Supports—*For Wood Supports see page 293.*

Length of Conveyor	0 to 50 ft. Centers		51 to 100 ft. Centers		101 to 150 ft. Centers		151 to 200 ft. Centers	
No. of Conveyor	**3167**	**3168**	**3169**	**3170**	**3171**	**3172**	**3173**	**3174**
Size of Material—In.								
Average size of Material to be handled	10	12	10	12	10	12	10	12
Maximum size; not to exceed 10% of whole	14	16	14	16	14	16	14	16
Capacity—In tons per hr.								
Horizontal	195	241	195	241	195	241	195	241
15° Incline	105	130	105	130	105	130	105	130
30° Incline	76	94	76	94	76	94	76	94
45° Incline	65	80	65	80	65	80	65	80
Size Scraper—Inches								
Length	30	36	30	36	30	36	30	36
Depth	10	10	10	10	10	10	10	10
Thickness of Steel	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
Spacing—Inches	32	32	32	32	32	32	32	32
Chain								
Number and Style	518S.L	518S.L	518S.L	518S.L	518S.L	518S.L	518S.L	518S.L
Pitch—Inches	8	8	8	8	8	8	8	8
Attachments	Cross Bar	Cross Bar	Cross Bar	Cross Bar	Cross Bar	Cross Bar	Cross Bar	Cross Bar
Working Strength-Lbs.	5200	5200	5200	5200	5200	5200	5200	5200
H. P. at Countershaft*	6.2	7.5	12.3	14.9	18.5	22.4	24.6	30.0
Head Shaft								
Diameter—Inches	2 15/16	2 15/16	3 15/16	3 15/16	4 7/16	4 7/16	4 15/16	5 7/16
Rev. per Min.	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2
Size Sprocket—Inches	31 1/4	31 1/4	31 1/4	31 1/4	31 1/4	31 1/4	31 1/4	31 1/4
Gear Diam.—Inches	40.12	40.12	41.24	41.24	48.41	41.24 C.S.	41.24 C.S.	41.24 C.S.
Gear Pitch—Inches	1 1/2	1 1/2	1 3/4	1 3/4	2	1 3/4	1 3/4	1 3/4
Gear Face—Inches	4	4	6	6	6	6	6	6
Countershaft								
Diameter—Inches	2 7/16	2 7/16	2 15/16	2 15/16	3 7/16	3 7/16	3 15/16	4 7/16
Rev. per Min.	70	70	61	61	64	61	61	61
Pinion Diam.—Inches	7.22	7.22	8.42	8.42	9.62	8.42 C.S.	8.42 C.S.	8.42 C.S.
Pinion Face—Inches	4 1/2	4 1/2	6 3/8	6 3/8	6 1/2	6 3/8	6 3/8	6 3/8
Foot Shaft								
Diameter—Inches	1 15/16	1 15/16	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16
Size Sprocket—Inches	31 1/4	31 1/4	31 1/4	31 1/4	31 1/4	31 1/4	31 1/4	31 1/4
Trough								
Thickness—Inches	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
Approx. Shipping Wgt.—Lbs.								
Terminals, Complete	2100	2150	2750	2810	3540	3420	3630	4120
Chain and Flights per Ft. Ctrs.	44	50	44	50	44	50	44	50
Trough and Bar Trackage per Ft. Ctrs.	51 1/2	57	51 1/2	57	51 1/2	57	51 1/2	57

* For Maximum Centers for all inclinations and corresponding capacities.

For Erection Dimensions of above Conveyors, see page 326.

Scraper Conveyors



At intervals this Scraper Conveyor has its side bars bent to connect the two all steel Vulcan Chains and also to reinforce steel angle iron scrapers.

Used for Small Capacities of Large Coal

BY means of their simple construction, shallow scrapers and cross bars self-contained with side bars of their all steel chains, these conveyors are especially fitted to the rough and rugged service of tipple equipment as well as that of power plants using small capacities of large coal. The Number 526 Vulcan Chain used on these Conveyors has a working strength of 1640 pounds.

This type of Conveyor is adapted to handling from 50 to 150 tons per hour depending on the angle of inclination.

Specify Conveyor by Number given in Table.

Jeffrey Number 526 Vulcan Steel Chain with 30 x 6 inch steel scrapers spaced every 36 inches.

Scraper Conveyors

Specifications of Jeffrey Standard Scraper Conveyors using Double Strand Vulcan Chain with Shallow Steel Scrapers

Steel Supports—*For Wood Supports see page 295.*

At this mine coal is delivered to both Tipple Building and Power House. Note the arrow pointing to Scraper Conveyor at the right carrying coal screenings direct from Tipple to Power House.

Length of Conveyor	0 to 50 ft. Centers	51 to 100 ft. Centers
No. of Conveyor	**3160**	**3163**
Size of Material—Inches		
Average size of Material to be handled	12	12
Maximum size; not to exceed 10% of whole	16	16
Capacity—In tons per hr.		
Horizontal	150	150
15° Incline	81	81
30° Incline	59	59
45° Incline	50	50
Size Scraper—Inches		
Length	30	30
Depth	6	6
Thickness of Steel	¼	¼
Spacing	36	36
Chain		
Number and Style	526V	526V
Pitch—Inches	6	6
Attachments	Bent Side Bar	Bent Side Bar
Working Strength—Lbs.	1640	1640
H. P. At Countershaft*	4.8	9.5

Length of Conveyor	0 to 50 ft. Centers	51 to 100 ft. Centers
No. of Conveyor	**3160**	**3163**
Head Shaft		
Diameter—Inches	$2\frac{15}{16}$	$3\frac{7}{16}$
Rev. per Min.	12½	12½
Size Sprocket—Inches	31¼	31¼
Gear Diam.—Inches	40.12	41.24
Gear Pitch—Inches	1½	1¾
Gear Face—Inches	4	6
Countershaft		
Diameter—Inches	$2\frac{7}{16}$	$2\frac{11}{16}$
Rev. per Min.	70	61
Pinion Diam.—Inches	7.22	8.42
Pinion Face—Inches	4½	6⅜
Foot Shaft		
Diameter—Inches	$1\frac{15}{16}$	$2\frac{7}{16}$
Size Sprocket—Inches	31¼	31¼
Trough		
Gauge	10	10
Approx. Shipping Wgt.-Lbs.		
Terminals, Complete	1840	2300
Chain and Flights per Ft. Ctrs.	34	34
Trough and Bar Trackage per Ft. Ctrs.	28	28

* For Maximum Centers for all inclinations and corresponding capacities.

For Erection Dimensions of above Conveyors, see bottom of page 327.

Scraper Conveyors

In the Coal Mining Industry Jeffrey Scraper Conveyors are not only used in handling material on the horizontal but often up steep inclines. They are also used to lower hundreds of tons of coal down long grades from the entrance or level of the mine on the hill side to the railroad loading tipple in the valley below.

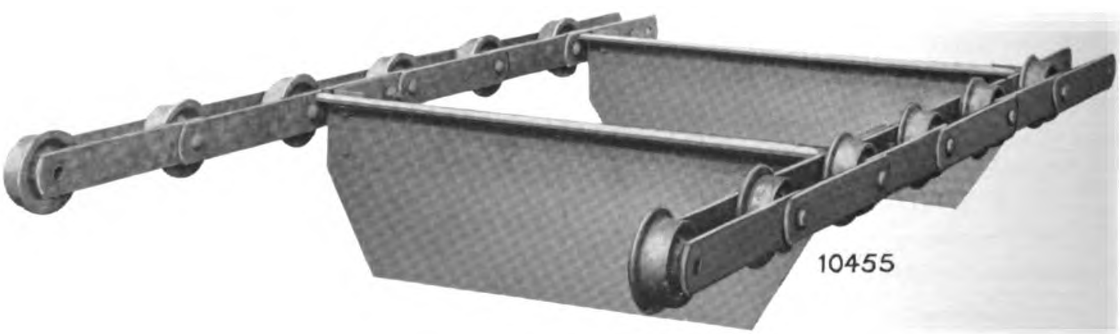
Handling Large Tonnages of Coal in the Mining Fields

WHERE large tonnages of coal are to be lowered down steep inclines and the distance is shorter than economical for the Jeffrey Cable Conveyor, the Jeffrey Scraper Conveyor is without an equal. Send us an outline or profile of your local conditions.

On these large Scraper Conveyors, Steel Thimble Roller Chains are usually used, thus insuring a silent and smooth running conveyor.

The simplicity of construction makes the Scraper Conveyor easy to repair. Occasional overloading of the Scraper Conveyor can be done without injury to the Scrapers. Working strength of the Number 276 chain is 5200 pounds.

Specify Conveyor by Number given in Table.



Jeffrey Number 276 Steel Thimble Roller Chain equipped with Steel Flanged Scrapers fitted with either 24 x 8 spaced every 24 inches or 30 x 10 and 36 x 12 steel scrapers, spaced every 36 inches.

Scraper Conveyors

Specifications of Jeffrey Standard Scraper Conveyors using Double Strand Steel Thimble Roller Chain with Steel Scrapers

Steel Supports—*For Wood Supports see page 297*

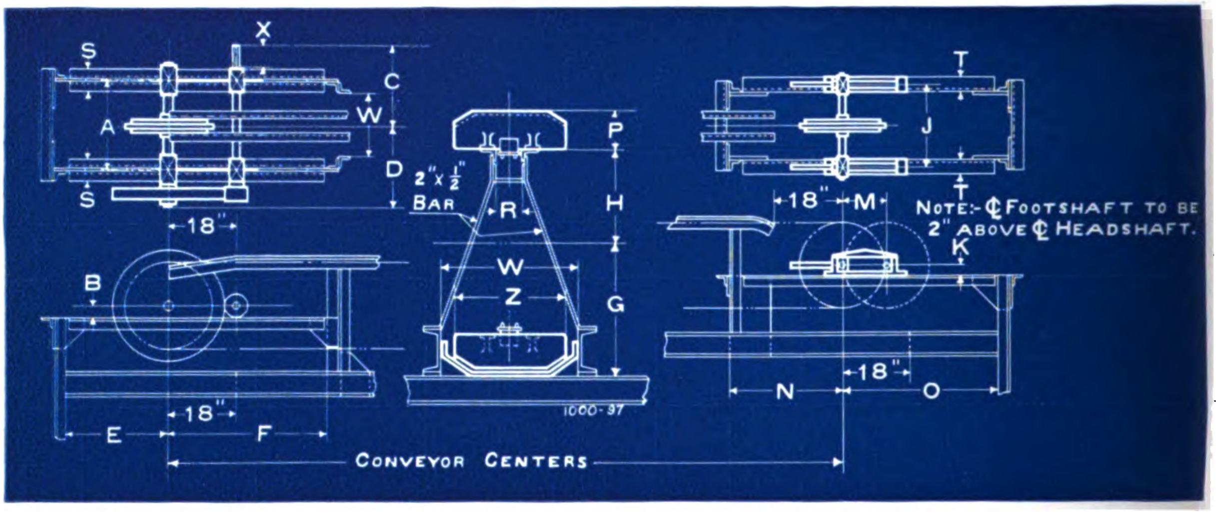
Length of Conveyor	0 to 50 ft. Centers			51 to 100 ft. Centers			101 to 150 ft. Centers			151 to 200 ft. Centers		
No. of Conveyor	**3175**	**3176**	**3177**	**3178**	**3179**	**3180**	**3181**	**3182**	**3183**	**3184**	**3185**	**3186**
Size of Material—In.												
Avge. size of Material to be handled	8	10	12	8	10	12	8	10	12	8	10	12
Max. size; not to exceed 10% of whole	12	14	16	12	14	16	12	14	16	12	14	16
Capacity—In tons per hour												
Horizontal	92	167	238	92	167	238	92	167	238	92	167	238
15° Incline	50	90	129	50	90	129	50	90	129	50	90	129
30° Incline	36	65	93	36	65	93	36	65	93	36	65	93
45° Incline	31	56	80	31	56	80	31	56	80	31	56	0
Size Scraper—In.												
Length	24	30	36	24	30	36	24	30	36	24	30	36
Depth	8	10	12	8	10	12	8	10	12	8	10	12
Thickness of Steel	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
Spacing	24	36	36	24	36	36	24	36	36	24	36	36
Chain												
Number and Style	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R	276 S.T.R
Pitch—Inches	12	12	12	12	12	12	12	12	12	12	12	12
Attachments	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper	Flg'd Scraper
Work Strength—Lbs.	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200
H. P. at Countershaft*	3.8	5.5	7.4	7.6	11.0	14.7	11.4	16.5	22.1	15.2	22.0	29.3
Head Shaft												
Diameter—Inches	2 7/16	2 15/16	3 7/16	3 7/16	3 15/16	4 7/16	3 15/16	4 7/16	4 15/16	4 7/16	4 15/16	5 7/16
Rev. per Min.	16 2/3	11	11	16 2/3	11	11	16 2/3	11	11	16 2/3	11	11
Size Sprocket—In.	24	35 1/2	35 1/2	24	35 1/2	35 1/2	24	35 1/2	35 1/2	24	35 1/2	35 1/2
Gear Diam.—In.	29.83	40.12	40.12	40.12	41.24	41.24	40.12	48.41	41.24 C.S.	41.24	41.24 C.S.	41.24 C.S.
Gear Pitch—In.	1 1/4	1 1/2	1 1/2	1 1/2	1 3/4	1 3/4	1 1/2	2	1 3/4	1 3/4	1 3/4	1 3/4
Gear Face—In.	3	4	4	4	6	6	4	6	6	6	6	6
Countershaft												
Diameter—In.	1 15/16	2 7/16	2 11/16	2 11/16	2 15/16	3 7/16	2 15/16	3 7/16	3 15/16	3 7/16	3 15/16	4 7/16
Rev. per Min.	83	62	62	93	54	54	93	56	54	82	54	54
Pinion Diam.—In.	6.01	7.22	7.22	7.22	8.42	8.42	7.22	9.62	8.42 C.S.	8.42	8.42 C.S.	8.42 C.S.
Pinion Face—In.	3 1/4	4 1/2	4 1/2	4 1/2	6 3/8	6 3/8	4 1/2	6 1/2	6 3/8	6 3/8	6 3/8	6 3/8
Foot Shaft												
Diameter—In.	1 7/16	1 15/16	2 7/16	2 7/16	2 7/16	2 15/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	2 15/16
Size Sprocket—In.	24	35 1/2	35 1/2	24	35 1/2	35 1/2	24	35 1/2	35 1/2	24	35 1/2	35 1/2
Trough												
Thickness	3/16	1/4	1/4	3/16	1/4	1/4	3/16	1/4	1/4	3/16	1/4	1/4
Approx. Shipping Wgt.—Lbs.												
Terminals, Complete	1620	2580	2850	2250	3230	3900	2440	4020	4200	3220	4120	4610
Chain and Flights per Ft. Ctrs.	72	72	80	72	72	80	72	72	80	72	72	80
Trough and Bar Trackage per Ft. Ctrs.	33	49	56	33	49	56	33	49	56	33	49	56

* For Maximum Centers for all inclinations and corresponding capacities.

For Erection Dimensions of above Conveyors, see page 328.

Scraper Conveyors

General Dimensions of Jeffrey Standard Scraper Conveyors



Using Single Strand of Detachable and Vulcan Chain with Malleable Scrapers

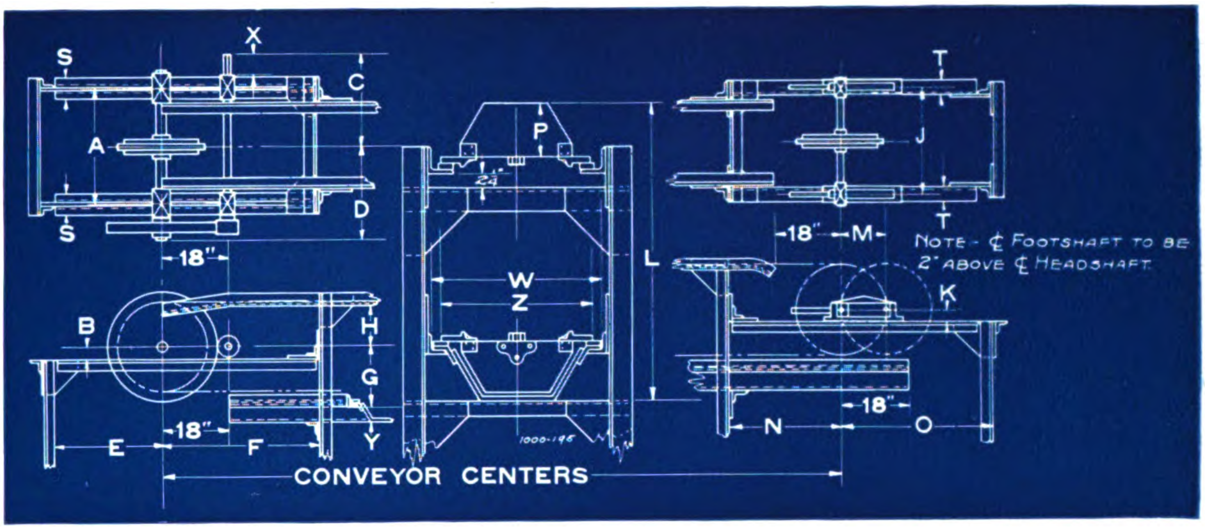
Steel Supports—*For Wood Supports* *see page 299.* **Dimensions in Inches**

Conveyor No.	A	B	C	D	E	F	G	H	J	K	M	N	O	P	R	S	T	W	X	Z
2994	19	1 11/16	17¾	16¾	30	42	17⅛	12	17	2¼	11¾	30	42	5	4	*4	4	13	6	10
2995	21	1 11/16	18¾	17¾	30	42	17⅛	12	19	2¼	11¾	30	42	5	4	*4	4	15	6	12
2996	21	1 11/16	18¾	17¾	30	42	17⅝	12½	19	2¼	11¾	30	42	5	4	*4	4	15	6	12
2997	24	1 11/16	20¼	19¼	30	42	17½	12⅜	22	2¼	11¾	30	42	5	4	*4	4	18	6	15
2998	24	3⅛	21	20¾	30	42	17 11/16	12½	22	2¼	11¾	30	42	5	4	6¼	4	18	6	15
2999	19	3⅛	18½	18¼	30	42	17⅛	12	17	2¼	11¾	30	42	5	4	6¼	4	13	6	10
3000	21	3⅛	19½	19¼	30	42	17⅛	12	19	2¼	11¾	30	42	5	4	6¼	4	15	6	12
3001	21	3⅛	19½	19¼	30	42	17⅝	12½	19	2¼	11¾	30	42	5	4	6¼	4	15	6	12
3002	24	3⅛	21	20¾	30	42	17½	12⅜	22	2¼	11¾	30	42	5	4	6¼	4	18	6	15
3003	24	3⅝	21¾	21¾	30	42	17 11/16	12½	22	2¾	12	30	42	5	4	6¼	4	18	6	15
3004	19	3⅛	18½	18¼	30	42	17⅛	12	17	2¼	11¾	30	42	5	4	6¼	4	13	6	10
3005	21	3⅝	20¼	20¼	30	42	17⅝	12½	19	2¾	12	30	42	5	4	6¼	4	15	6	12
3006	24	3⅝	21¾	21¾	30	42	17½	12⅜	22	2¾	12	30	42	5	4	6¼	4	18	6	15
3007	24	3⅝	21¾	21¾	30	42	17 11/16	12½	22	2¾	12	30	42	5	4	6¼	4	18	6	15

* Use Single Angle for Head Bearing Support.

Scraper Conveyors

General Dimensions of Jeffrey Standard Scraper Conveyors



Using Single Strand Steel Link and Vulcan Chain, Steel Scrapers with Wearing Blocks

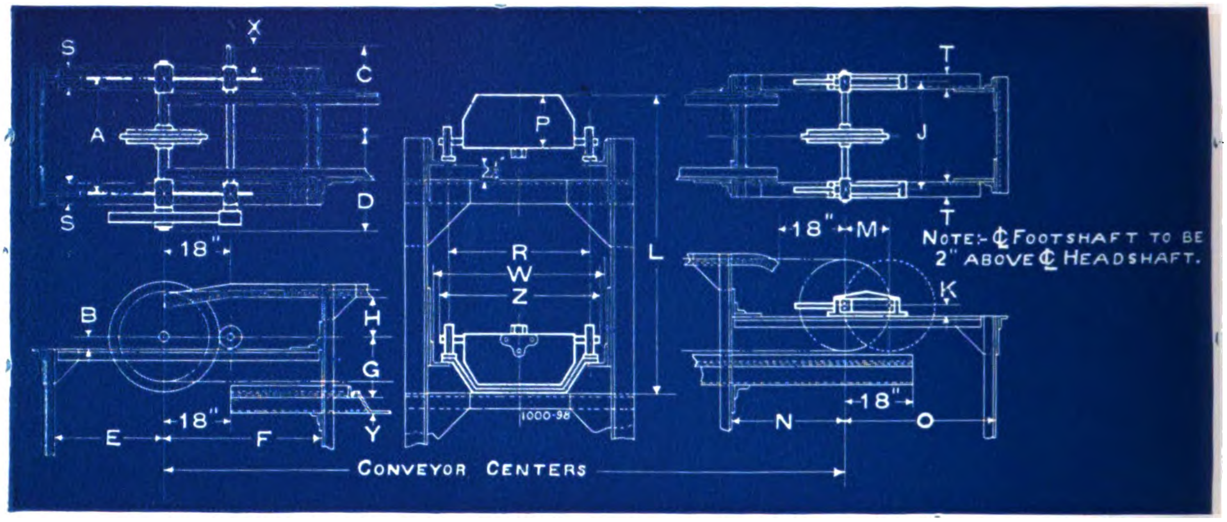
Steel Supports—*For Wood Supports see page 300.* Dimensions in Inches

Conveyor No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	S	T	W	X	Y	Z
3315	28½	3⅛	23¼	23	32	42	13⅛	11	26½	2¼	39⅜	11¾	30	44	7	6¼	4	20¾	6	6¾	19
3316	28½	3⅛	23¼	23	34	42	15 3/16	13	26½	2¼	43½	11¾	30	46	7	6¼	4	20¾	6	6¾	19
3317	31½	3⅝	25½	25½	32	42	13⅛	11	29½	2¾	41⅜	12	30	44	8	6¼	4	23¾	6	7¾	22
3318	31½	3⅝	25½	25½	34	42	15 3/16	13	29½	2¾	45½	12	30	46	8	6¼	4	23¾	6	7¾	22
3319	28½	3⅝	24	24	32	42	13⅛	11	26½	2¾	39⅜	12	30	44	7	6¼	4	20¾	6	6¾	19
3320	28½	3⅝	24	24	34	42	15 3/16	13	26½	2¾	43½	12	30	46	7	6¼	4	20¾	6	6¾	19
3321	31½	3⅝	25½	25½	32	42	13⅛	11	29½	2¾	41⅜	12	30	44	8	6¼	4	23¾	6	7¾	22
3322	33½	4	27⅞	27½	34	42	15 3/16	13	29½	3⅛	45½	15	32	49	8	7¼	4	23¾	7	7¾	22
3323	28½	3⅝	24	24	32	42	13⅛	11	26½	2¾	39⅜	12	30	44	7	6¼	4	20¾	6	6¾	19
3324	30½	4	26⅜	26	34	42	15 3/16	13	26½	3⅛	43½	15	32	49	7	7¼	4	20¾	7	6¾	19
3325	31½	3⅝	25½	25½	32	48	13⅛	11	29½	2¾	41⅜	12	30	44	8	6¼	4	23¾	6	7¾	22
3326	33½	4⅝	29¼	29	34	48	15 3/16	13	29½	3⅛	45½	15	32	49	8	8¼	4	23¾	8	7¾	22
3327	28½	3⅝	24	24	32	48	13⅛	11	26½	2¾	39⅜	12	30	44	7	6¼	4	20¾	6	6¾	19
3328	30½	4⅝	27¾	27½	34	48	15 3/16	13	26½	3⅛	43½	15	32	49	7	8¼	4	20¾	8	6¾	19
3329	35½	5⅜	32	31½	34	48	15 3/16	13	31¾	4	45½	22¼	44	56	8	10¼	*6¼	23¾	9	7¾	22

*Use Double Angle for 2 15/16" Takeups.

Scraper Conveyors

General Dimensions of Jeffrey Standard Scraper Conveyors



Using Single Strand Steel Link and Vulcan Chain, Steel Scrapers with Roller Attachments

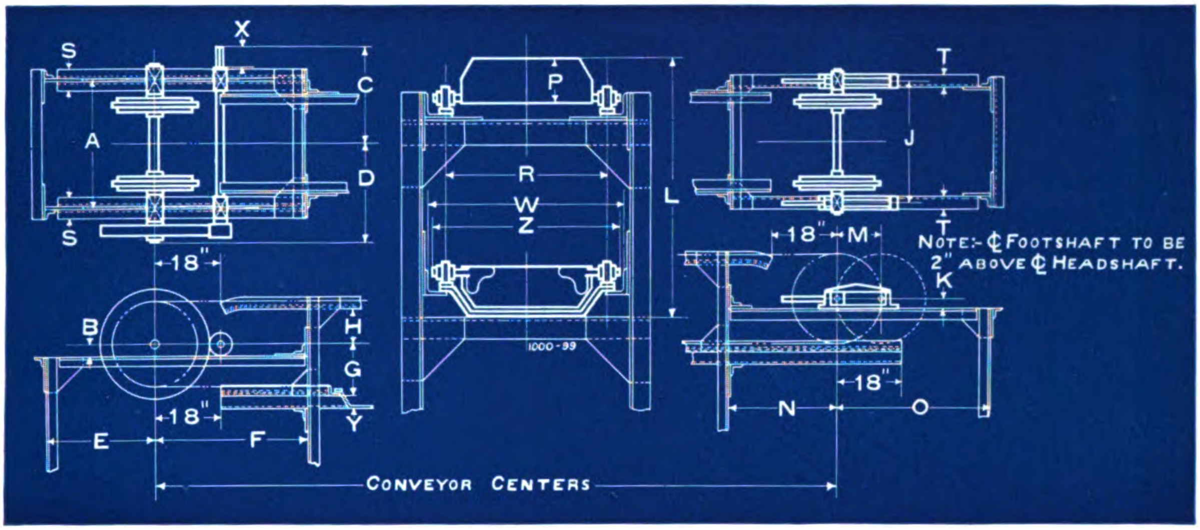
Steel Supports—*For Wood Supports see page 301.* **Dimensions in Inches**

Conveyor No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	W	X	Y	Z
3008	31	3 1/8	24 1/2	24 1/4	32	42	16 1/8	11	29	2 1/4	39 3/8	11 3/4	30	44	7	19	6 1/4	4	23	6	3 3/4	21 1/2
3009	31	3 1/8	24 1/2	24 1/4	34	42	18 3/16	13	29	2 1/4	43 1/2	11 3/4	30	46	7	19	6 1/4	4	23	6	3 3/4	21 1/2
3010	34	3 5/8	26 3/4	26 3/4	32	42	16 1/8	11	32	2 3/4	41 3/8	12	30	44	8	22	6 1/4	4	26	6	4 3/4	24 1/2
3011	34	3 5/8	26 3/4	26 3/4	34	42	18 3/16	13	32	2 3/4	45 1/2	12	30	46	8	22	6 1/4	4	26	6	4 3/4	24 1/2
3012	31	3 5/8	25 1/4	25 1/4	32	42	16 1/8	11	29	2 3/4	39 3/8	12	30	44	7	19	6 1/4	4	23	6	3 3/4	21 1/2
3013	31	3 5/8	25 1/4	25 1/4	34	42	18 3/16	13	29	2 3/4	43 1/2	12	30	46	7	19	6 1/4	4	23	6	3 3/4	21 1/2
3137	34	3 5/8	26 3/4	26 3/4	32	42	16 1/8	11	32	2 3/4	41 3/8	12	30	44	8	22	6 1/4	4	26	6	4 3/4	24 1/2
3138	36	4	29 1/8	28 3/4	34	42	18 3/16	13	34	3 1/8	45 1/2	15	32	49	8	22	7 1/4	4	26	7	4 3/4	24 1/2
3139	31	3 5/8	25 1/4	25 1/4	32	42	16 1/8	11	29	2 3/4	39 3/8	12	30	44	7	19	6 1/4	4	23	6	3 3/4	21 1/2
3140	33	4	27 5/8	27 1/4	34	42	18 3/16	13	31	3 1/8	43 1/2	15	32	49	7	19	7 1/4	4	23	7	3 3/4	21 1/2
3141	34	3 5/8	26 3/4	26 3/4	32	48	16 1/8	11	32	2 3/4	41 3/8	12	30	44	8	22	6 1/4	4	26	6	4 3/4	24 1/2
3142	36	4 5/8	30 1/2	30 1/4	34	48	18 3/16	13	34	3 1/8	45 1/2	15	32	49	8	22	8 1/4	4	26	8	4 3/4	24 1/2
3143	31	3 5/8	25 1/4	25 1/4	32	48	16 1/8	11	29	2 3/4	39 3/8	12	30	44	7	19	6 1/4	4	23	6	3 3/4	21 1/2
3144	33	4 5/8	29	28 3/4	34	48	18 3/16	13	31	3 1/8	43 1/2	15	32	49	7	19	8 1/4	4	23	8	3 3/4	21 1/2
3145	38	5 3/8	33 1/4	32 3/4	34	48	18 3/16	13	34	4	45 1/2	22 1/4	44	56	8	22	10 1/4	*6 1/4	26	9	4 3/4	24 1/2

*Use Double Angles for $2\frac{15}{16}$" Takeups.

Scraper Conveyors

General Dimensions of Jeffrey Standard Scraper Conveyors



Using Double Strand Malleable Roller Chain with Steel Scrapers

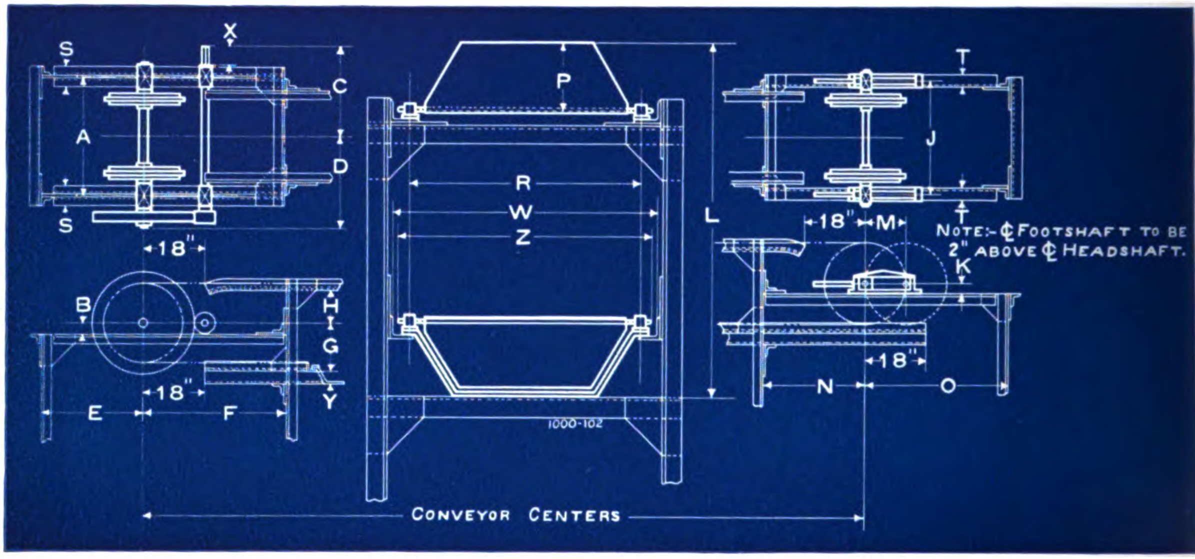
Steel Supports—*For Wood Supports* *see page 302.* **Dimensions in Inches**

Conveyor No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	W	X	Y	Z
3146	34 1/4	1 11/16	25 3/8	24 3/8	30	42	14	10 7/8	29	2 1/4	35 7/8	11 3/4	30	42	6	21	*4	3 1/2	25	6	4 1/8	23 1/2
3147	34 1/4	3 1/8	26 1/8	25 7/8	30	42	14 1/16	9 7/8	33 1/4	2 1/4	34 11/16	11 3/4	30	42	6	22	6 1/4	3 1/2	26 7/8	6	3 1/2	25 1/4
3148	40 1/4	3 1/8	29 1/8	28 7/8	32	42	14 1/16	9 7/8	39 1/4	2 1/4	38 11/16	11 3/4	30	44	8	28	6 1/4	3 1/2	32 7/8	6	5 1/2	31 1/4
3149	33 1/4	3 1/8	25 5/8	25 3/8	30	42	14	10 7/8	29	2 1/4	35 7/8	11 3/4	30	42	6	21	6 1/4	3 1/2	25	6	4 1/8	23 1/2
3150	36	3 5/8	27 3/4	27 3/4	30	42	14 1/16	9 7/8	31 1/2	2 3/4	34 11/16	12	30	42	6	22	6 1/4	4	26 7/8	6	3 1/2	25 1/4
3151	42	3 5/8	30 3/4	30 3/4	32	48	14 1/16	9 7/8	37 1/2	2 3/4	38 11/16	12	30	44	8	28	6 1/4	4	32 7/8	6	5 1/2	31 1/4
3152	35	3 5/8	27 1/4	27 1/4	30	42	14	10 7/8	30 1/2	2 3/4	35 7/8	12	30	42	6	21	6 1/4	4	25	6	4 1/8	23 1/2
3153	37 3/4	4	30	29 5/8	30	48	14 1/16	9 7/8	33 1/4	3 1/8	34 11/16	15	32	46	6	22	7 1/4	4	26 7/8	7	3 1/2	25 1/4
3154	43 3/4	4	33	32 5/8	32	48	14 1/16	9 7/8	39 1/4	3 1/8	38 11/16	15	32	48	8	28	7 1/4	4	32 7/8	7	5 1/2	31 1/4
3155	36 3/4	4	29 1/2	29 1/8	30	48	14	10 7/8	32 1/4	3 1/8	35 7/8	15	32	46	6	21	7 1/4	4	25	7	4 1/8	23 1/2
3156	37 3/4	4	30	29 5/8	30	48	14 1/16	9 7/8	33 1/4	3 1/8	34 11/16	15	32	46	6	22	7 1/4	4	26 7/8	7	3 1/2	25 1/4
3157	46	4 5/8	35 1/2	35 1/2	32	48	14 1/16	9 7/8	41	4	38 11/16	22 1/4	42	54	8	28	8 1/4	†6 1/4	32 7/8	8	5 1/2	31 1/4

* Use Single Angle for Head Bearing Supports.
† Use Double Angle for 2 11/16" Takeups.

Scraper Conveyors

General Dimensions of Jeffrey Standard Scraper Conveyors



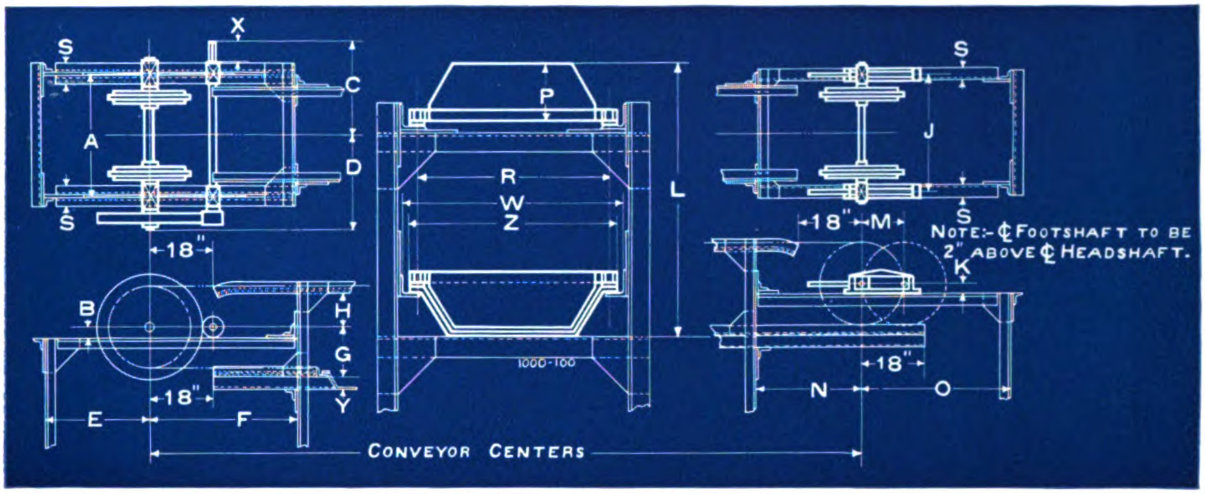
Using Double Strand Steel Link Chain with Steel Scrapers

Steel Supports—*For Wood Supports* *see page 304.* **Dimensions in Inches**

Conveyor No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	W	X	Y	Z
3167	48	3⅝	33¾	33¾	38	48	17¼	14¼	43½	2¾	51⅝	12	30	50	10¼	34	6¼	4	39	6	8⅞	37½
3168	54	3⅝	36¾	36¾	38	48	17¼	14¼	49½	2¾	51⅝	12	30	50	10¼	40	6¼	4	45	6	8⅞	43½
3169	52	4⅝	38½	38½	38	48	17¼	14¼	45¼	3⅛	51⅝	15	32	54	10¼	34	8¼	4	39	8	8⅞	37½
3170	58	4⅝	41½	41½	38	48	17¼	14¼	51¼	3⅛	51⅝	15	32	54	10¼	40	8¼	4	45	8	8⅞	43½
3171	54¼	5⅜	41⅜	41	38	56	17¼	14¼	47	4	51⅝	22¼	44	60	10¼	34	10¼	*6¼	39	9	8⅞	37½
3172	60¼	5⅜	44⅜	43⅞	38	48	17¼	14¼	53	4	51⅝	22¼	44	60	10¼	40	10¼	*6¼	45	9	8⅞	43½
3173	56½	5⅝	44¼	43½	38	48	17¼	14¼	47	4	51⅝	22¼	44	60	10¼	34	10¼	*6¼	39	10	8⅞	37½
3174	64¾	6¼	50⅛	49⅛	38	48	17¼	14¼	53	4	51⅝	22¼	44	60	10¼	40	12¼	*6¼	45	11	8⅞	43½

*Use Double Angles for $2\frac{15}{16}$" Takeups.

General Dimensions of Jeffrey Standard Scraper Conveyors

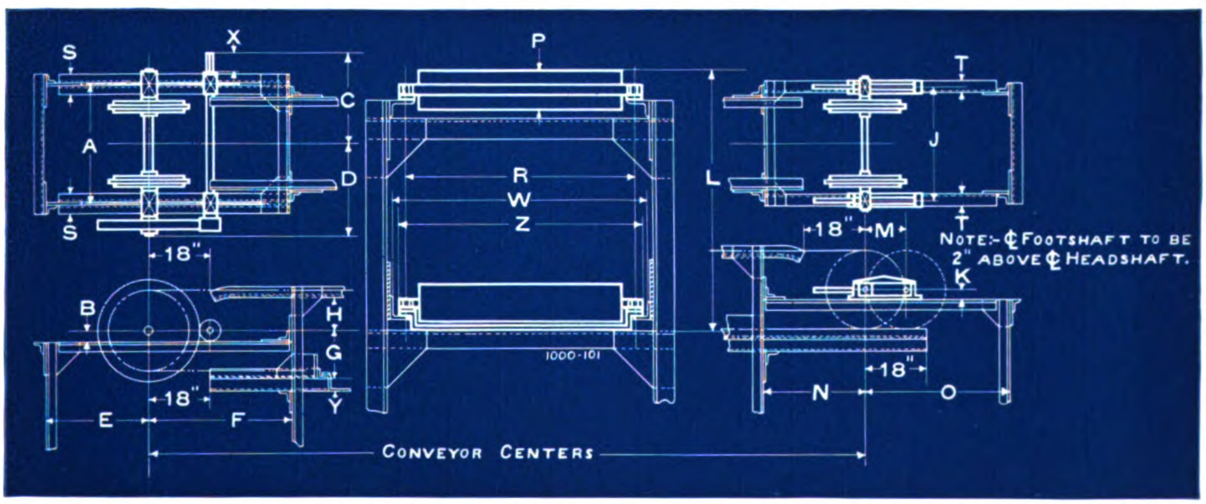


Using Double Strand Vulcan Chain with Steel Scrapers

Steel Supports—*For Wood Supports see page 303.* **Dimensions in Inches**

Conveyor No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	W	X	Y	Z
3158	34¾	1 11/16	25⅝	24⅝	30	42	13 3/16	10½	29½	2¼	34 7/16	11¾	30	42	6	21½	*4	3½	25½	6	4¼	23⅝
3159	39¾	3⅛	28⅞	28⅝	32	42	13 3/16	10½	35½	2¼	38 7/16	11¾	30	44	8	27½	6¼	3½	31½	6	6¼	29⅝
3161	33¾	3⅛	25⅞	25⅝	30	42	13 3/16	10½	29½	2¼	34 7/16	11¾	30	42	6	21½	6¼	3½	25½	6	4¼	23⅝
3162	41½	3⅝	30½	30½	32	48	13 3/16	10½	37	2¾	38 7/16	12	30	44	8	27½	6¼	4	31½	6	6¼	29⅝
3164	35½	3⅝	27½	27½	30	48	13 3/16	10½	31	2¾	34 7/16	12	30	42	6	21½	6¼	4	25½	6	4¼	23⅝
3165	43¼	4	32¾	32⅜	32	48	13 3/16	10½	38¾	3⅛	38 7/16	15	32	48	8	27½	7¼	4	31½	7	6¼	29⅝
3166	37¼	4	29¾	29⅜	30	48	13 3/16	10½	32¾	3⅛	34 7/16	15	32	46	6	21½	7¼	4	25½	7	4¼	23⅝

* Use Single Angle for Head Bearing Support.



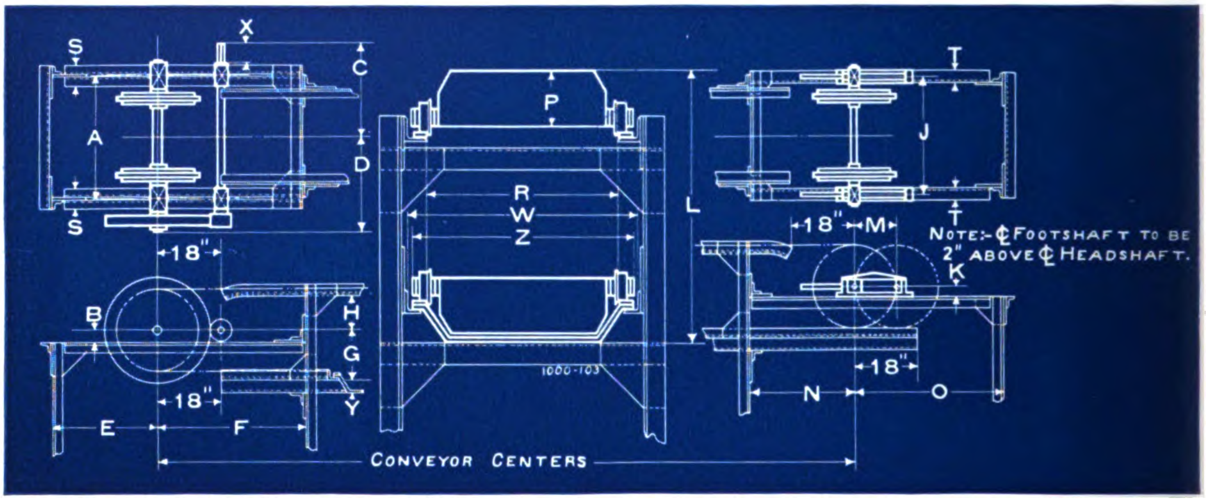
Using Double Strand Vulcan Chain with Shallow Steel Scrapers

Steel Supports—*For Wood Supports see page 304.* **Dimensions in Inches**

Conveyor No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	W	X	Y	Z
3160	47½	3⅝	33½	33½	30	48	17	14⅜	43	2¾	37⅝	12	30	42	6	33½	6¼	4	37⅛	6	2	35⅝
3163	49¼	4	35¾	36	30	48	17	14⅜	44¾	3⅛	37⅝	15	32	46	6	33½	7¼	4	37⅛	7	2	35⅝

Scraper Conveyors

General Dimensions of Jeffrey Standard Scraper Conveyors



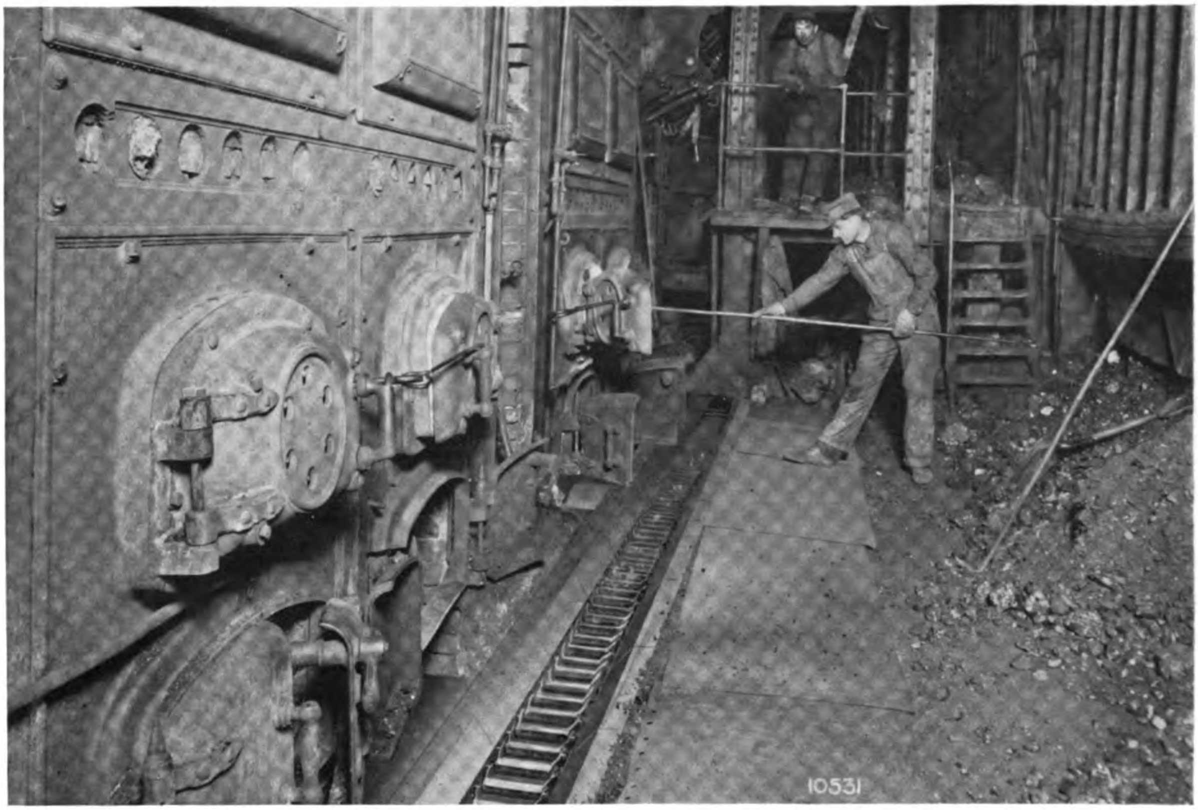
Using Double Strand Steel Thimble Roller Chain with Steel Scrapers

Steel Supports—*For Wood Supports* *see page 305.* **Dimensions in Inches**

Conveyor No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	W	X	Y	Z
3175	40 1/8	3 1/8	29 1/16	28 13/16	30 3/4	42	14 11/16	9 1/2	39 1/8	2 1/4	38	11 3/4	30	42	8	26 7/8	6 1/4	4	32 3/4	6	4 1/2	31 1/4
3176	47 7/8	3 5/8	33 11/16	33 11/16	40	48	20 1/2	15 1/4	43 3/8	2 3/4	53 1/2	12	30	52	10	32 7/8	6 1/4	4	38 3/4	6	6 1/2	37 1/4
3177	55 5/8	4	38 15/16	38 9/16	40	48	20 1/2	15 1/4	51 1/8	3 1/8	57 1/2	15	32	56	12	38 7/8	7 1/4	4	44 3/4	7	8 1/2	43 1/4
3178	43 5/8	4	32 15/16	32 9/16	30 3/4	48	14 11/16	9 1/2	39 1/8	3 1/8	38	15	32	46	8	26 7/8	7 1/4	4	32 3/4	7	4 1/2	31 1/4
3179	51 7/8	4 5/8	38 7/16	38 7/16	40	48	20 1/2	15 1/4	45 1/8	3 1/8	53 1/2	15	32	56	10	32 3/4	8 1/4	4	38 3/4	8	6 1/2	37 1/4
3180	60 1/8	5 3/8	44 5/16	43 13/16	40	48	20 1/2	15 1/4	52 7/8	4	57 1/2	22 1/4	44	62	12	38 7/8	10 1/4	*6 1/4	44 3/4	9	8 1/2	43 1/4
3181	45 7/8	4 5/8	35 7/16	35 3/16	30 3/4	48	14 11/16	9 1/2	39 1/8	3 1/8	38	15	32	46	8	26 7/8	8 1/4	4	32 3/4	8	4 1/2	31 1/4
3182	54 1/8	5 3/8	41 5/16	40 13/16	40	56	20 1/2	15 1/4	46 7/8	4	53 1/2	22 1/4	44	62	10	32 7/8	10 1/4	*6 1/4	38 3/4	9	6 1/2	37 1/4
3183	62 3/8	5 5/8	47 3/16	46 7/16	40	48	20 1/2	15 1/4	52 7/8	4	57 1/2	22 1/4	44	62	12	38 7/8	10 1/4	*6 1/4	44 3/4	10	8 1/2	43 1/4
3184	48 1/8	5 3/8	38 5/16	37 13/16	30 3/4	48	14 11/16	9 1/2	40 7/8	4	38	22 1/4	44	52	8	26 7/8	10 1/4	*6 1/4	32 3/4	9	4 1/2	31 1/4
3185	56 3/8	5 5/8	44 3/16	43 7/16	40	48	20 1/2	15 1/4	46 7/8	4	53 1/2	22 1/4	44	62	10	32 7/8	10 1/4	*6 1/4	38 3/4	10	6 1/2	37 1/4
3186	64 5/8	6 1/4	50 1/16	49 1/16	40	48	20 1/2	15 1/4	52 7/8	4	57 1/2	22 1/4	44	62	12	38 7/8	12 1/4	*6 1/4	44 3/4	11	8 1/2	43 1/4

* Use Double Angles for 2 15/16" Takeups.

Drag Chain Conveyor

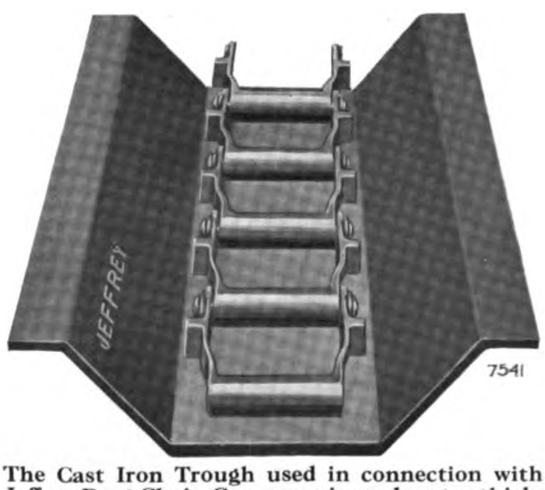


Here the Jeffrey Drag Chain Conveyor operates just below the floor level in an extra heavy cast iron trough set in a cement trench. This arrangement makes it easy for the man tending the boilers to watch the ash conveyor also. This Conveyor may also be located in the basement and fed by raking from ash pits.

Handling Ashes with a Conveyor adapted for Gritty Material

Where conditions permit the Drag Chain Equipment to be installed for handling ashes, the cost of maintenance is greatly reduced.

This cost reduction is possible for two reasons: (1st) The Drag Chain itself is a low priced chain which means a low cost for repairs. (2nd) The actual wear on the chain is greatly reduced because a film of finer material ordinarily acts as a cushion or wearing surface between the chain and the trough.



The Cast Iron Trough used in connection with Jeffrey Drag Chain Conveyors is made extra thick.

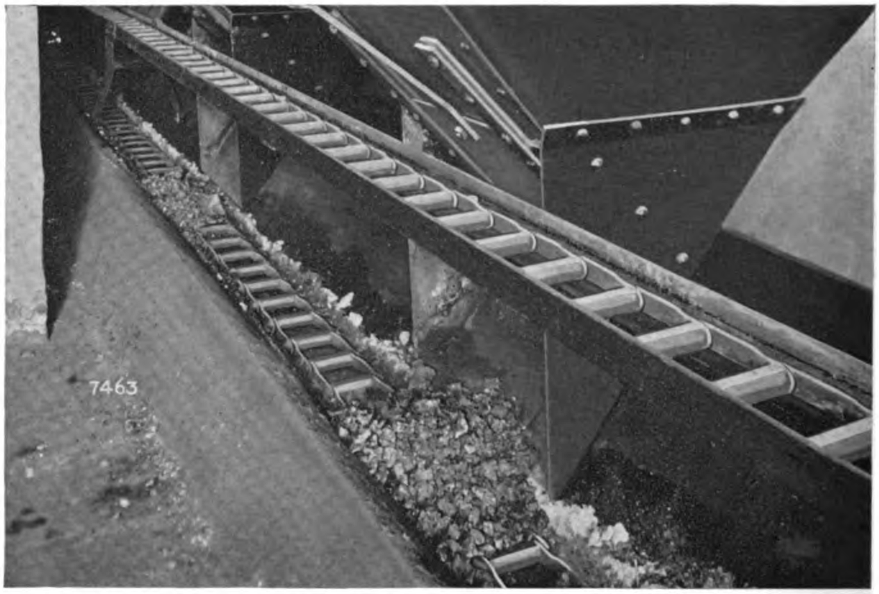
The long wearing surface in the Jeffrey Drag Chain for its pins makes it ideally fitted to Conveyors for the handling of Ashes, during the 3 to 5 hour continuous daily service required of it in many power plants.

Jeffrey Reliance Drag Chains are furnished in two sizes of similar construction. The Number 102 Chain has a 5″ pitch, 9⅞″ overall width and 4200 pounds working strength. The Number 1156 Chain has a 6″ pitch, 9¾″ overall width, and working strength 5000 pounds.

These Drag Chain Conveyors operate in a cast iron trough and handle a capacity of 20 tons per hour, at a chain speed of 50 ft. per minute. For any lesser capacities change the chain speed in direct proportion.

Specify Conveyor by Number given in Table.

Drag Chain Conveyor



Another installation of Jeffrey Reliance Drag Chain Conveyor handling ashes under boilers. The Jeffrey Drag Chain with reasonable care is adapted for the conditions of wear and tear to which ashes handling machinery is subjected. It operates at a very slow speed but at the same time handles, with a small amount of power, all that is ordinarily required in the average plant.

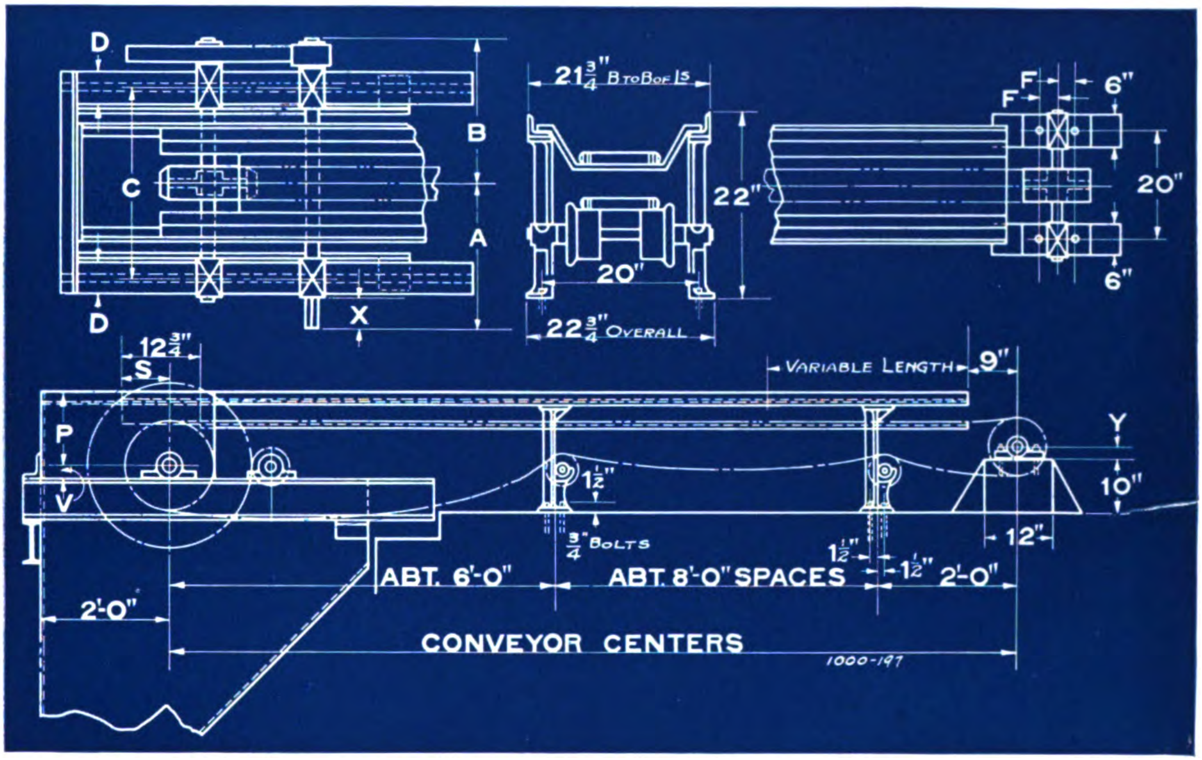
Jeffrey Reliance Drag Chain Conveyor installed for handling coal.

Reliance Drag Chain Conveyor handling large pulpwood logs from storage to mill.

For Detailed Information on Chain, see page 512.

Drag Chain Conveyor

Specifications of Reliance Drag Chain Conveyor



Length of Conveyor	0 to 50 ft. Centers		51 to 100 ft. Centers		101 to 150 ft. Centers		151 to 200 ft. Centers	
No. of Conveyor	**3191**	**3192**	**3193**	**3194**	**3195**	**3196**	**3197**	**3198**
Capacity—In tons per hour	20	20	20	20	20	20	20	20
No. of Chain	102	1156	102	1156	102	1156	102	1156
Pitch—Inches	5	6	5	6	5	6	5	6
Width—Inches	9⅞	9¾	9⅞	9¾	9⅞	9¾	9⅞	9¾
Pin Diameter—Inches	⅝	¾	⅝	¾	⅝	¾	⅝	¾
H. P. At Countershaft for Max. Centers	1.6	1.6	3.2	3.2	4.8	4.8	6.4	6.4
Head Shaft Diam.—Inches	2 7/16	2 7/16	2 15/16	2 15/16	2 15/16	2 15/16	3 7/16	3 7/16
Head Shaft R. P. M.	12	11	12	11	12	11	12	11
Drive Sprocket Diam.—Inches	16¼	17½	16¼	17½	16¼	17½	16¼	17½
Drive Gear Diam.—Inches	29.83	29.83	29.83	29.83	35.82	35.82	35.82	35.82
Drive Gear Pitch—Inches	1¼	1¼	1¼	1¼	1½	1½	1½	1½
Countershaft Diam.—Inches	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16	2 11/16	2 11/16
Countershaft R. P. M.	60	55	60	55	60	55	60	55
Pinion Diam.—Inches	6.01	6.01	6.01	6.01	7.22	7.22	7.22	7.22
Pinion Face—Inches	3¼	3¼	3¼	3¼	4½	4½	4½	4½
Foot Shaft Diam.—Inches	1 15/16	1 15/16	1 15/16	1 15/16	2 7/16	2 7/16	2 7/16	2 7/16
C. I. Trough Pat. No.	29349	29349	29349	29349	29349	29349	29349	29349
C. I. Trough Wt. Per Ft.	36	36	36	36	36	36	36	36
Approx. Shipping Wgt.—Lbs.								
* Terminals, Complete	620	640	740	760	940	960	1080	1100
**Per Foot Centers	75	85	75	85	75	85	75	85

* Weight of Terminals—Include Head and Foot Shafts complete with Chain on End Sprockets.

**Weight per Foot Centers—Include Trough, Chains and Stands spaced 8 feet between centers with Rollers, Bearings and Shafts, also angles for Trough.

General Dimensions of Reliance Drag Chain Conveyors

0 to 50 ft. Centers

No.	A	B	C	D	F	P	S	V	X	Y
3191	26¼	26	34½	6	2 13/16	13¼	6¼	2 1/16	6	1 11/16
3192	26¼	26	34½	6	2 13/16	13¾	6	2 1/16	6	1 11/16

101 to 150 ft. Centers

No.	A	B	C	D	F	P	S	V	X	Y
3195	28⅜	28⅜	37¼	7	3½	13¼	6¼	2 7/16	6	2 1/16
3196	28⅜	28⅜	37¼	7	3½	13¾	6	2 7/16	6	2 1/16

51 to 100 ft. Centers

No.	A	B	C	D	F	P	S	V	X	Y
3193	27¾	27¾	36	6	2 13/16	13¼	6¼	2 7/16	6	1 11/16
3194	27¾	27¾	36	6	2 13/16	13¾	6	2 7/16	6	1 11/16

151 to 200 ft. Centers

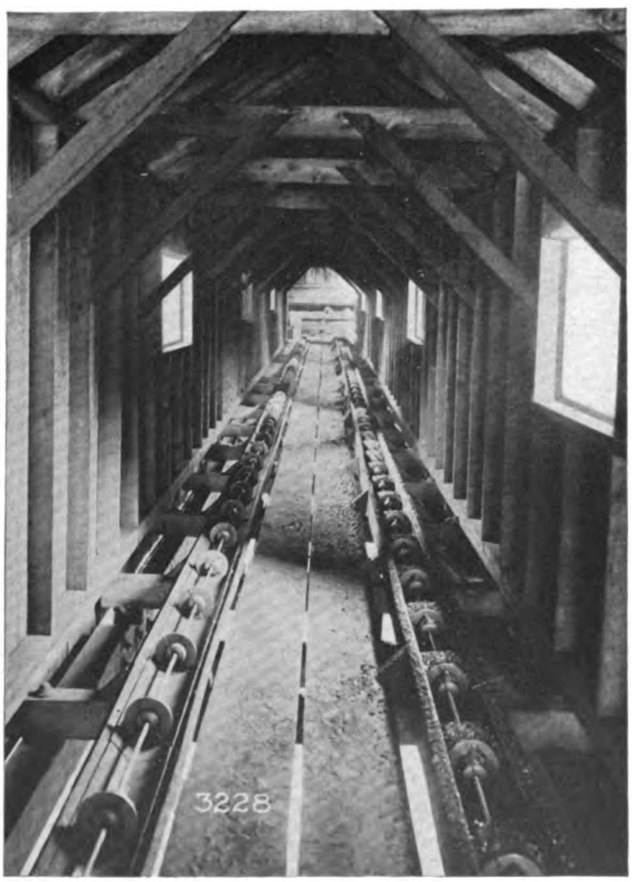
No.	A	B	C	D	F	P	S	V	X	Y
3197	30⅞	30⅜	39¾	7	3½	13¼	6¼	2¾	7	2 1/16
3198	30⅞	30⅜	39¾	7	3½	13¾	6	2¾	7	2 1/16

Cable Conveyors

Section 11

Cable Conveyors

Jeffrey Cable Conveyor in service in a Power House, distributing coal to Bunkers

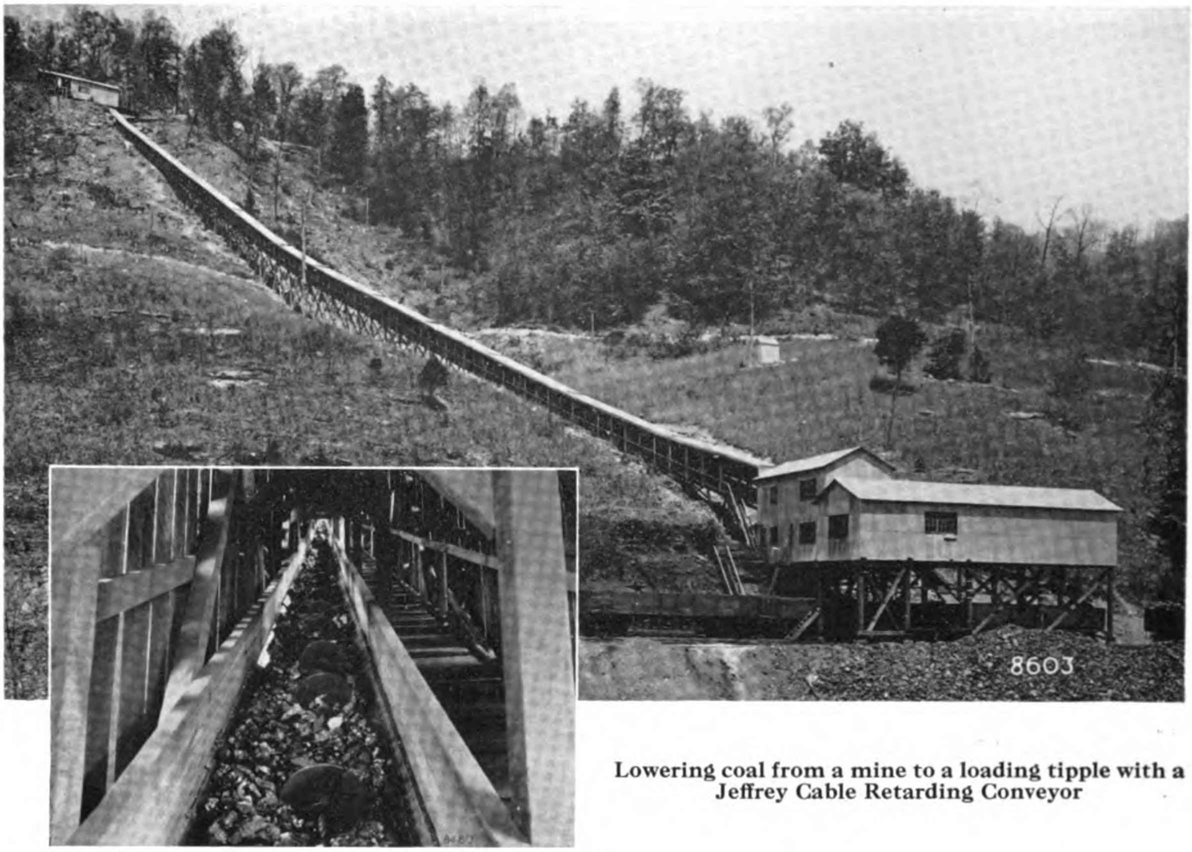


THE Cable Conveyor is primarily used for the long distance hauling of loose bulk materials and in this respect is similar to the Belt Conveyor. In construction, the Cable Conveyor is quite simple, being a series of circular discs or clamps mounted at intervals on a steel cable. Both the carrying and return strands of the conveyor run in a curved steel trough.

The terminal sheaves are necessarily large in diameter, making the first cost comparatively high for very short conveyors, but where the length is sufficient to justify the cost of terminals, there is no better form of handling non-abrasive bulk materials than the Cable Conveyor.

At the left, the Cable Conveyor is shown carrying slack coal from tipple building to power house at mine.

Cable Conveyors

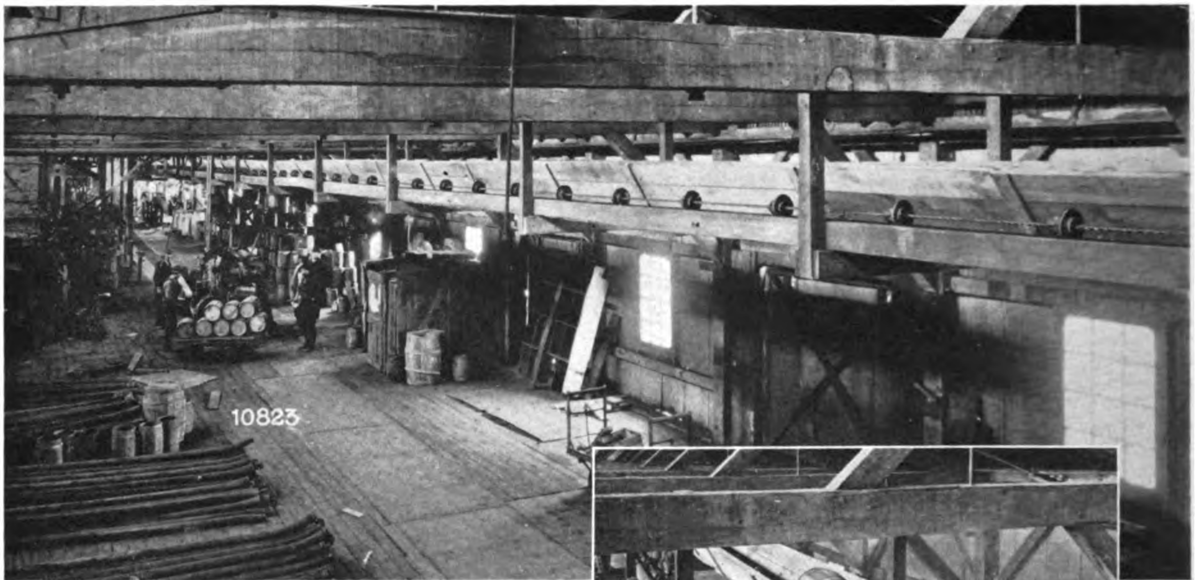


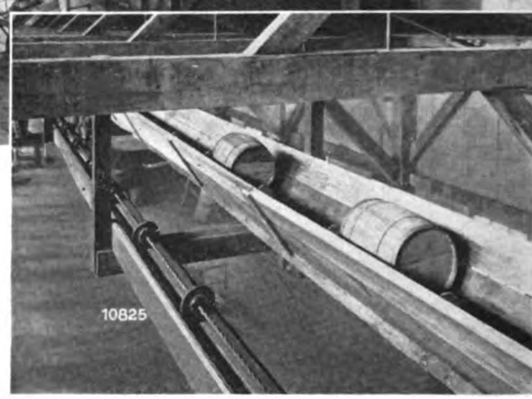
Lowering coal from a mine to a loading tipple with a Jeffrey Cable Retarding Conveyor

THE Cable Retarding Conveyor will lower coal in large quantities, giving capacities up to 300 tons per hour. The intermediate run between terminals of the Cable Retarding Conveyor is quite flexible and can be installed to very nearly conform to the contour of the hillside by the use of large sweeping curves. This greatly reduces the amount of material ordinarily required in the supporting structure. For additional information on Jeffrey Cable Retarding Conveyors, see pages 649 to 658.

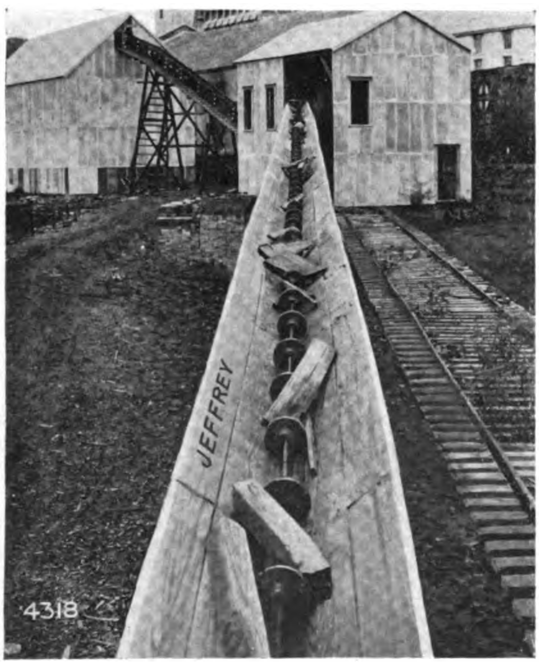
The right hand view shows a Jeffrey Cable Car Haul-up in service at a mine. By alternately reversing the haul-up spurs, one side of an endless wire cable raises loaded cars, while the opposite side lowers the empty cars. For detailed information on Jeffrey Car Hauls, see pages 660 to 662.

Cable Conveyors





Jeffrey Cable Conveyor is shown in the above illustration, carrying empty nail kegs from cooper shop to filling machines in a large nail mill.

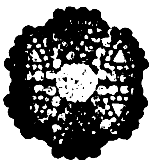


Handling pulp wood with the Jeffrey Cable Conveyor. For other views of the Cable Conveyor serving the Pulp and Paper Mill Industry, see pages 106 to 110.

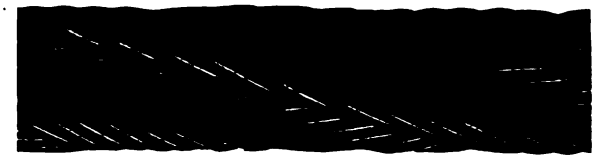
Jeffrey Cable Conveyor in operation in a garbage reduction plant.

"Conveyor Brand" Wire Rope

The Ideal Cable for Conveyor and Car Haul Service



Flattened Strand Rope



As the success of a Cable Conveyor depends largely upon the character of the cable used, we have after exhaustive tests adopted this cable as the best suited to meet all the requirements of such service. It is composed of six flattened strands of twenty-five wires each of thoroughly tested high grade crucible steel laid around a hemp or wire center and so constructed as to reduce rotating to a minimum.

Flattened Strand Ropes have been designed to secure the greatest wearing surface and yet retain as much flexibility as possible. The external surfaces of these ropes more nearly approach a solid round bar than do the ropes made up of round strands, and possess about 150 per cent more wearing surface.

Diameter Cable Inches	List Price per Foot		Approximate Weight per Foot Lbs.	Approximate Breaking Strength Hemp Center Lbs.†	Max. Working Strength Total or Straight Line Pull at Safety Factor 5
	Hemp Center	Wire Center			
½			0.45	18600	3720
⅝	See	See	0.72	27600	5520
¾			1.00	38600	7720
⅞	Price	Price	1.38	50000	10000
1			1.80	66000	13200
1⅛	List	List	2.30	84000	16800
1¼			2.80	104000	20800
1⅜	Bulletin	Bulletin	3.45	124000	24800
1½			4.00	140000	28000

Wire centers recommended for Conveyor and Car Haul Service requiring ¾" Cable and larger.
†Wire Center increases Breaking Strength, but not Working Strength, by approximately 10 per cent.

Gapped Sheave Wheels for "Conveyor Brand" Cable

Adjustable Rim—Double Flexible Teeth

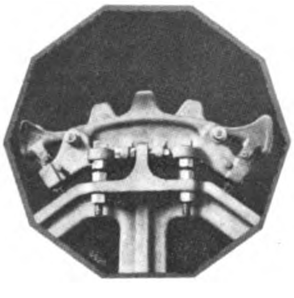
Sheave Service: See table and foot notes on page 339.

Single Flexible Teeth Sheaves have flexible teeth on one side of each gap as shown at right while Double Flexible Teeth are on both sides of each gap.

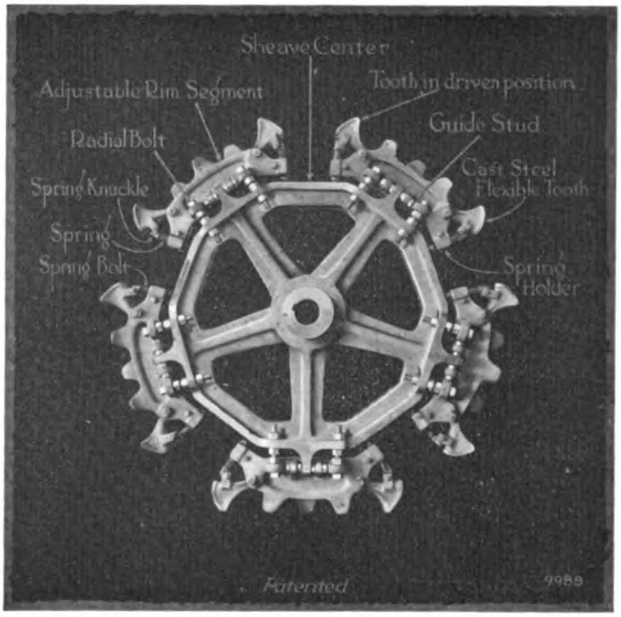
The Sheave shown at the left has its application where travel of Conveyor is to be reversed and on Retarding Conveyors where it acts as a Driver wheel when starting Conveyor and changes to Driven when running under load. The type of Sheave shown on the right is used on Conveyors operating in one direction only.

Solid Rim—Single Flexible Teeth

Cable Conveyors



Above is shown a tooth of a Jeffrey Driving Sheave in its disengaged position.



The illustration above shows the tooth spring connections in the rim of a Jeffrey Sheave.

Jeffrey new style Sheave of 75.10 inches pitch diameter for 7/8", 1", 1 1/8" and 1 1/4" inch ropes having conveying clamps spaced 48 inches apart. The teeth are in the driven position.

Why Jeffrey Sheaves Prolong Life of Rope

JEFFREY Flexible Tooth Adjustable Rim Sheaves embody those features and refinements which insure proper working and long life of the Cable Conveyor.

The Flexible feature, with proper adjustment of the rim, eliminates practically all the wear between the ends of the cable clamps and the face of the teeth.

The teeth are set down against the rim for a driving sheave as shown at left above. The clamp, upon leaving the sheave pulls the tooth out until it releases, but not before the following clamp has seated itself against its tooth and has taken up the driving stress, after which a coil spring brings the tooth back to its original position. Only one tooth of the sheave does the driving at any one time and that is the tooth in the act of leaving the clamp.

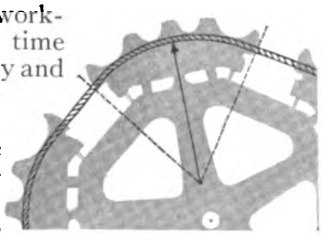
On the Driven Sheave, the teeth are maintained in the outer position by the springs, the action of the clamps on the teeth being the reverse of that described above for the driving sheave.

Since the constant working stress will in time stretch the rope slightly and thereby change the spacing of the clamps, there must either be an adjustment of the rim of the sheave or the clamps will have to be respaced. This respacing of the clamps not only necessitates considerable labor but a consequent delay in the operation of the conveyor. The adjustment of the rim will compensate for all nominal stretch in the rope without the respacing of the clamps.

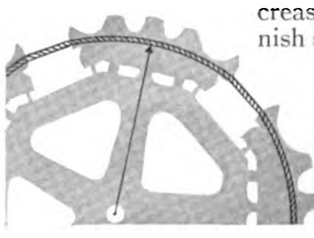
In many of the older designs of sheaves where the radius of the rim was struck from the center of the wheel a decided bend or kink was put in the rope at the point where the rope left the sheave tooth and crossed the gap in the rim. This action was detrimental to the life of the rope as the constant bending back and forth caused the wires to crystalize and break at the clamps.

This fault has been entirely eliminated by the Jeffrey Tangential Rim Sheave. The centers of the radii of the rim segments are so placed that the rope in spanning the gap is tangent to the rim of the sheaves as shown by diagram below.

The Jeffrey Sheave shown on this page is so designed that all parts are interchangeable, thereby making it possible to cover the replacement contingency with a minimum of extra parts by the user and increasing our ability to furnish such parts on short notice. Driving and Driven Sheaves are made by simply reversing the position of the springs and spring holders so that the teeth are held in the inner or outer position, as the case may be.



New tangential rim of sheave, no bend of rope at gap



Old type of sheave rim with bend of rope at gap

Gapped Sheave Wheels for Cable Conveyors and Haul-Ups

Table of Dimensions

For List Price of Driver and Driven Sheaves, see Price List Bulletin

Item No.*	Diameter Sheave to center of Rope Inches	Spacing of Att's. or Pitch Inches	No. of Gaps in Sheave §	Teeth per Gap See page 337	Max. Length Gaps for Haul-up Att's. Dimen. A Page 661	Max. "Dia. of Disc" Page 341 Gaps will take	Max. Standard Bore	Net Working Strength in Pounds of Standard Gapped Sheaves for various sizes of Cable — Diameter of Cable in Inches						
								3/8 & 1/2	5/8	3/4	7/8	1	1 1/8	1 1/4
2	23 1/4	24	3	Single	7	6	2 7/16	2400						
5	31 1/2	24	4	"	7 1/2	8	2 15/16	3240	3710					
9	**35**	**36**	**3**	**Double**	**8**	**8**	**2 15/16**		**3950**					
10	36	36	3	Single	8 3/4	10	3 7/16	3450	3900	4000				
11	38 1/4	24	5	"	7 1/2	8	3 7/16	3240	3950	4130				
12	**39**	**24**	**5**	**Double**	**7 1/2**	**9**	**2 15/16**		**3950**					
13	46 1/4	24	6	Single	7 3/4	8	3 15/16	3730	4700	5000				
14	46 1/2	36	4	"	8 1/2	10	4 15/16	3770	4700	5000	5790			
15	**46 1/2**	**36**	**4**	**Double**	**12**	**10**	**3 15/16**		**4700**	**5000**				
18	**47**	**36**	**4**	**"**	**14**	**10**	**3 7/16**		**4700**					
19	47	24	6	"	7 1/2	10	3 15/16	3770	4700	5000				
20	57 1/2	36	5	Single	9	12	4 15/16		4700	5000	7290	8060		
21	**58**	**36**	**5**	**Double**	**14 3/8**	**12**	**4 7/16**			**5000**				
22	58	36	5	"	9	12	4 15/16			5000	7290	8060		
26	**62**	**24**	**8**	**"**	**7**	**12**	**4 15/16**			**7300**	**7800**			
27	62	24	8	Single	8 1/2	10	4 15/16		5900	7300	7800			
28	**68 3/4**	**36**	**6**	**Double**	**11 5/8**	**14**	**5 15/16**					**9590**	**10900**	
29	69	36	6	"	11 5/8	14	5 15/16					9590	10900	
30	**69**	**36**	**6**	**"**	**15**	**14**	**4 7/16**		**5600**	**6600**				
31	69 1/4	36	6	Single	10	12	5 7/16		5600	6600	6800			
32	69 1/2	36	6	"	12	12	5 15/16					9590	10900	
33	69 1/2	24	9	"	8	8	4 15/16	4230	5600	6600				
37	77	48	5	"	15	12	6 7/16				9250	10700	11600	
46	**75.10**	**48**	**5**	**Double**	**8**	**12**	**6 7/16**				**10000**	**13200**		
47	**74.66**	**48**	**5**	**"**	**15**	**12**	**6 7/16**				**10000**	**13200**		
48	**75.00**	**48**	**5**	**"**	**9**	**12**	**6 7/16**						**16800**	**20800**
39	78	60	4	Single	15	12	6 7/16					12900	14300	16900
40	78 1/2	60	4	Double	15	12	6 7/16					12900	14300	16900
41	80 1/2	36	7	"	13	12	5 15/16			7975	8750	9950		
42	**80 1/2**	**36**	**7**	**"**	**15**	**15**	**5 15/16**			**7975**	**8750**	**9950**		
43	**91 3/4**	**36**	**8**	**"**	**14 1/2**	**16**	**6 15/16**					**11500**	**12800**	
44	**92**	**48**	**6**	**"**	**17 1/2**	**16**	**6 15/16**						**13900**	**15000**
45	92 1/2	48	6	Single	15	12	6 7/16					11500	13900	

All the above Sheaves are Tangential Rim Type.

To Select Sheaves note carefully:—

(a) "Spacing of Att's" required.
(b) "Max. Length of Gaps" for Haul-up Attachments.
(c) "Max. Dia. of Disc" for Conveyor Attachments.
(d) "Net Working Strength" of Cable.
(e) Order by "Item No." and "Diam. of Cable."

***Sheaves in Bold Type have "Adjustable Rims" and are used for Car Haul-ups and Heavy Conveyor Service.** Other sheaves have "Solid Rims" and are used for conveyors of light service only not exceeding 150 feet centers. Illustration of Sheaves pages 337 and 338.

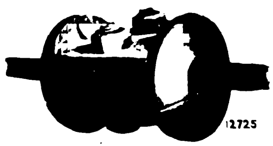
§At least two gaps of a sheave should always be in contact with attachments.

Driver and Driven Sheaves furnished respectively with cast steel and cast iron flexible teeth, except Items 46, 47, and 48 which are fitted with cast steel teeth for both Driver and Driven Wheels. Driven Sheave should ordinarily be same diameter as the Driver.

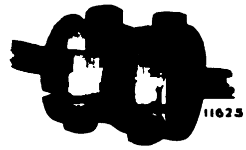
Cable Conveyors

Attachments for Steel Cable Conveyors

These Cable Attachments used in General Conveying Work. Other Attachments Known to the Trade but not illustrated, on application.

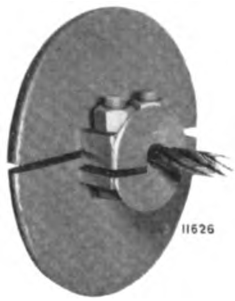


F-1 (2 Bolts)

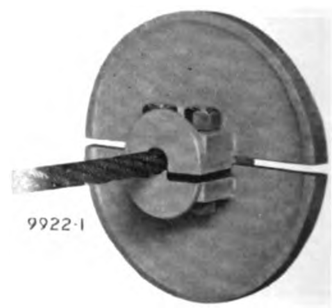


F-1½ (4 Bolts)

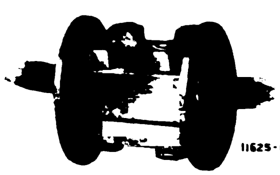
F-5 (2 Bolts)



F-5½ (4 Bolts)



F-6½ (4 Bolts)

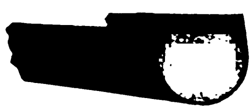


F-9½ (4 Bolts)

F-10 Splice used with (2 Bolt Type Clamps)
F-10½ Splice used with (4 Bolt Type Clamps)

Standard Steel Troughs for Cable Conveyors

E-1



E-2

E-4

Other Forms of Troughs made on order

Cable Conveyors

Attachments

For List Price—See Price List Bulletin

2 Bolt Type

Number	Diam. of Disc.	Length of Hub	Working Strength	Approx Weight Lbs.
½" Cable				
F- 1		3¼"	1860	4½
F- 5	6"	3¼"	1860	7¼
F-10 Splice	6"	3¼"	1860	9¾
⅝" Cable				
F- 1		3½"	2760	6
F- 5	6"	3½"	2760	9

Number	Diam. of Disc.	Length of Hub	Working Strength	Approx Weight Lbs.
⅝" Cable Continued				
F- 5	8"	3½"	2760	11½
F-10 }	6"	3½"	2760	14½
Splice }	8"	3½"	2760	20¼
¾" Cable				
F- 1		3½"	3860	6¾
F- 5	6"	3½"	3860	9¼
F- 5	8"	3½"	3860	12

Number	Diam. of Disc.	Length of Hub	Working Strength	Approx Weight Lbs.
¾" Cable Continued				
F-10 }	6"	3½"	3860	16
Splice }	8"	3½"	3860	21¾
⅞" Cable				
F- 1		4"	5000	10
F- 5	6"	4"	5000	12¼
F- 5	8"	4"	5000	14¾
F-10 }	6"	4"	5000	16½
Splice }	8"	4"	5000	23¾

4 Bolt Type

Number	Diam. of Disc.	Length of Hub	Working Strength	Approx Weight Lbs.
½" Cable				
F- 1½		4⅝"	3720	6¼
F- 5½	6"	4⅝"	3720	8¼
F-10½ Splice	6"	4⅝"	3720	11½
⅝" Cable				
F- 1½		5¼"	5520	9¾
F- 5½	6"	5¼"	5520	12
F- 5½	8"	5¼"	5520	14½
F-10½ }	6"	5¼"	5520	17
Splice }	8"	5¼"	5520	21
¾" Cable				
F- 1½		5¾"	7720	15¾
F- 5½	6"	5¾"	7720	16½
F- 6½	8"	5¾"	7720	19

Number	Diam. of Disc.	Length of Hub	Working Strength	Approx Weight Lbs.
¾" Cable Continued				
F- 6½	10"	5¾"	7720	23¾
F-10½ }	6"	5¾"	7720	22¾
	8"	5¾"	7720	19½
Splice }	10"	5¾"	7720	41½
⅞" Cable				
F- 1½		6⅜"	10000	20½
F- 6½	8"	6⅜"	10000	26½
F- 6½	12"	6⅜"	10000	34¼
F-10½ }	6"	6⅜"	10000	23
	8"	6⅜"	10000	26
Splice }	12"	6⅜"	10000	55
1" Cable				
F- 1½		6⅞"	13200	26¾
F- 6½	8"	6⅞"	13200	32½
F- 6½	12"	6⅞"	13200	40½

Number	Diam. of Disc.	Length of Hub	Working Strength	Approx Weight Lbs.
1" Cable Continued				
F- 9½	6"	6⅞"	13200	27¼
F-10½ }	6"	6⅞"	13200	26
Splice }	12"	6⅞"	13200	54¾
1⅛" Cable				
F- 1½		7⅛"	16800	33½
F- 6½	12"	7⅛"	16800	48
F- 9½	6"	7⅛"	16800	37
F-10½ }	8"	7⅛"	16800	49
Splice }	12"	7⅛"	16800	61½
1¼" Cable				
F- 1½		7⅞"	20800	46¾
F- 6½	12"	7⅞"	20800	62
F-10½ }	8"	7⅞"	20800	55½
Splice }	12"	7⅞"	20800	66¾

Steel Trough For Cable Conveyor

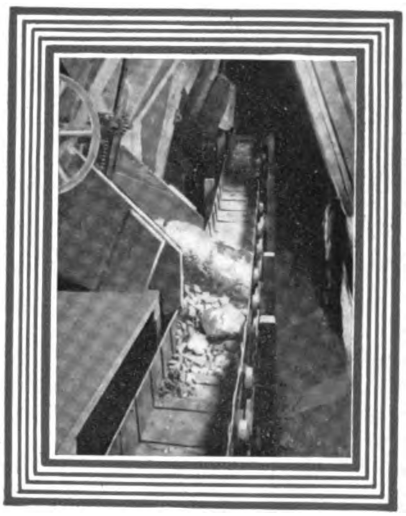
For List Price—See Price List Bulletin

Diameter Attachment Inches	Style E-1 or E-2 Trough					Style E-4 Trough				
	Width of Sheet Inches	Thickness				Width of Sheet Inches	Thickness			
		No. 12	No. 10	3/16"	¼"		No. 12	No. 10	3/16"	¼"
4	12	*	*	*	....	6	*	*	*	....
5	15	*	*	*	....	7½	*	*	*	....
6	18	*	*	*	*	9	*	*	*	....
8	24	*	*	*	*	12	....	*	*	*
10	30	....	*	*	*	15	....	*	*	*
12	36	....	*	*	*	18	....	*	*	*

*Indicates sizes of Trough made in Thickness noted.

For Car-haul Attachments see page 661.

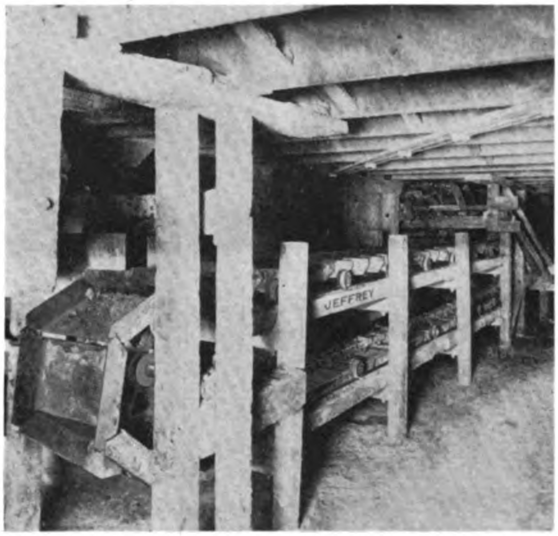
Pan Conveyors



Section 12

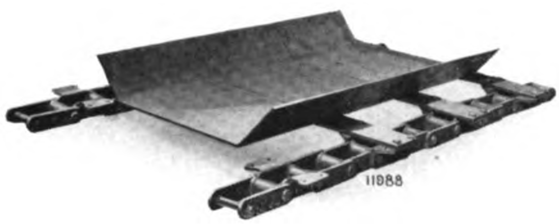
Pan Conveyors

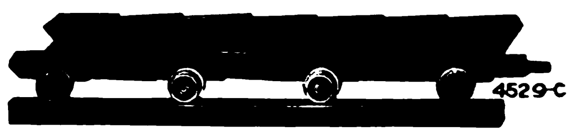
Steel Overlapping Type

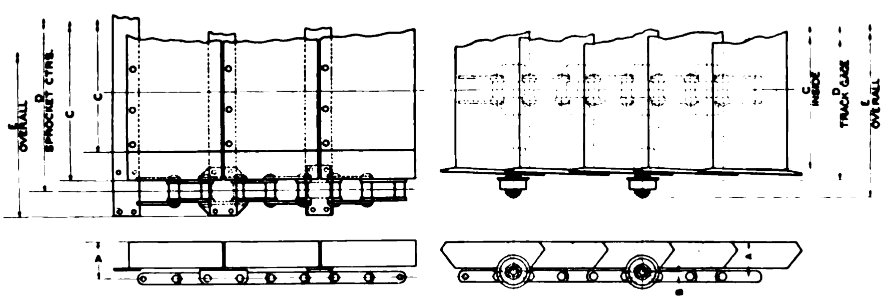


Jeffrey Pan Conveyors serving a large Fertilizer Plant. Note Pan Conveyor in background of left hand illustration which discharges at right angles onto the one shown in the foreground.

THE simplest form of Pan Conveyor is shown at the left, consisting of steel pans formed from one piece and mounted upon Hercules and in some cases the Roller Type Chain. When mounted on a single strand of Hercules Chain, carrying rollers are often attached to pans as shown at the right below.





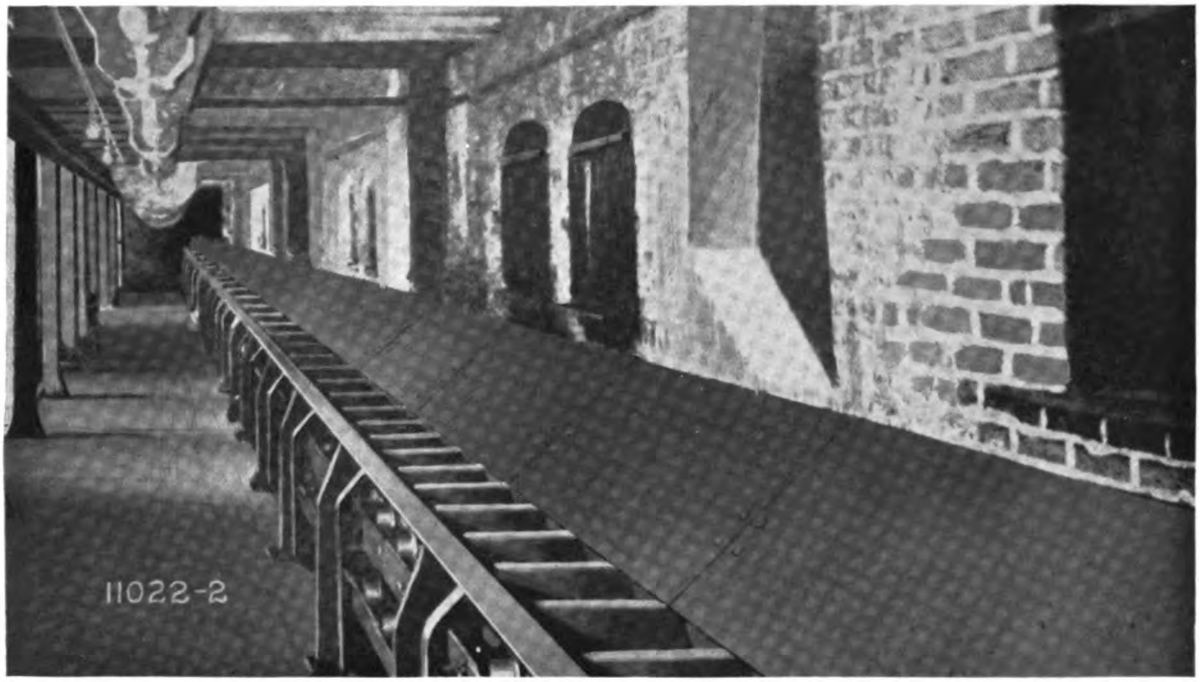


Type	Capacity in * Cu. Ft. per Hour	Capacity in * Tons per Hour 50 Lbs. Material	Chain No.	Chain Pitch In.	Weight per running foot of Conv. Lbs.	Carrying Rollers Dia.	Carrying Rollers Bore	Carrying Rollers Spacing	Dimensions—Inches A	B	C	C¹	D	E
Single Strand	1350	34	102B	3.96	29	4″	$1\frac{3}{32}$″	2′-0″	$3\frac{15}{16}$	¾	13	....	15¼	19[illegible]
Single Strand	1933	48	111	4.78	30	4″	$1\frac{3}{32}$″	2′-4⅝″	5⅛	1	14	....	16[illegible]	20[illegible]
Single Strand	3264	82	111	4.78	32	4″	$1\frac{3}{32}$″	2′-4⅝″	5⅛	1	24	....	26[illegible]	30[illegible]
Double Strand	3152	79	111	4.78	53	....	....	....	6¾	....	18	26½	30	37[illegible]

*Capacities given for Conveyor Speed at 100 feet per minute.

Pan Conveyors

Cast Iron Overlapping Type

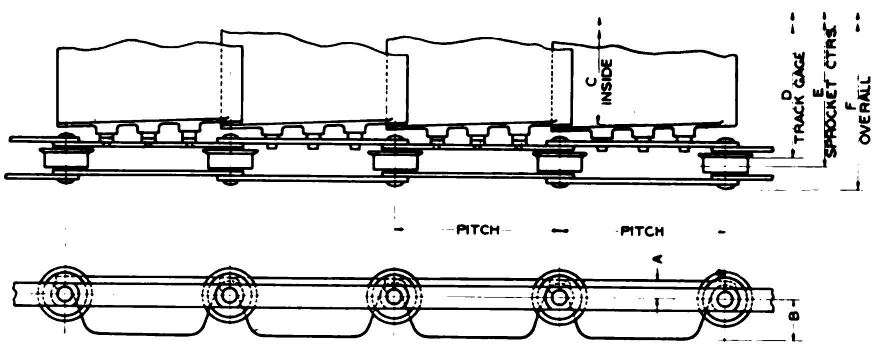


THE Cast Iron Overlapping Pans are well adapted to the handling of Ashes and other similar abrasive or semi-abrasive material, as none of the material comes in contact with the moving parts.

Cast Iron Overlapping Pans.

Mounted between two strands of Steel Thimble Roller Chain, these pans form an endless moving trough.

Skirt Plates mounted as shown in the illustration above protect the chain from any spill in loading the Conveyor.

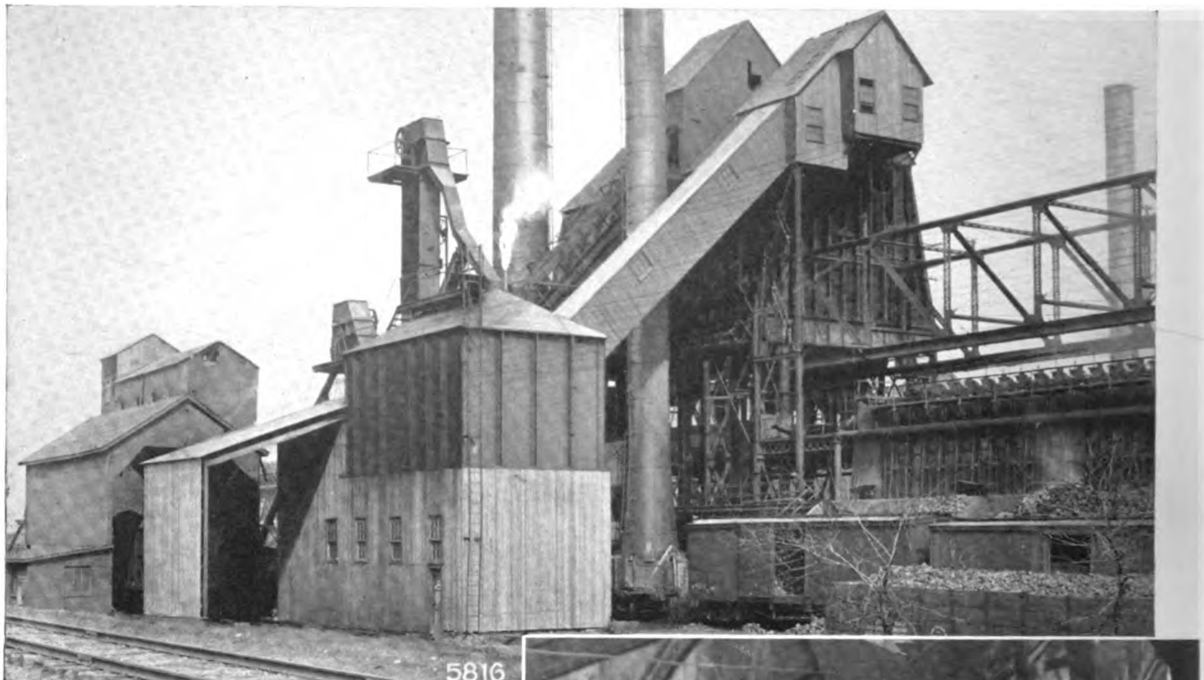


*Capacity in Cubic Feet per hour	*Capacity in Tons per hour	Chain		Weight per running ft. of Conveyor Lbs.	Dimensions—Inches					
		No.	Pitch		A	B	C	D	E	F
809	40	276	12	45	3/4	2 5/16	12	16 5/16	17 5/16	20 3/4
1240	62	276	12	55	3/4	2 5/16	18	22 5/16	23 5/16	26 3/4
1766	88	182½	18	77	2	2	17	22½	24¼	28 13/16
4000	200	182½	18	95	2	4 3/8	23¼	30	31¾	36 5/16

*Capacities given for Conveyor Speed at 100 ft. per minute handling Material weighing 100 lbs. per cu. ft.

Pan Conveyors

Depressed Type (Steel)



An application of the Jeffrey Round Bottom Pan Conveyor for handling material up a steep incline.

THE Depressed Steel Pans mounted on two strands of Steel Thimble Roller Chain are ideal for handling large capacities and upon steep inclines of such materials that have a tendency to readily flow.

Like the other types of Pans shown on previous pages, there is but one discharge point.

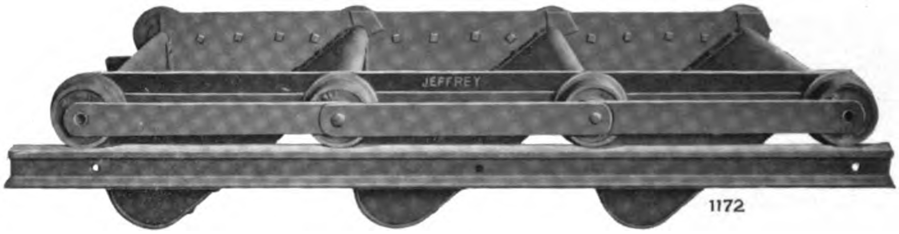
The Flat Bottom Steel Pan has the same application as the Round Bottom and is so constructed as to readily receive a renewable wood lining with which it is usually fitted to protect the steel surface from impact of heavy materials such as Ore.

Heavy Duty Apron Conveyors which are adapted to similar service as the Depressed Type of Pan Conveyor, are shown on page 194.

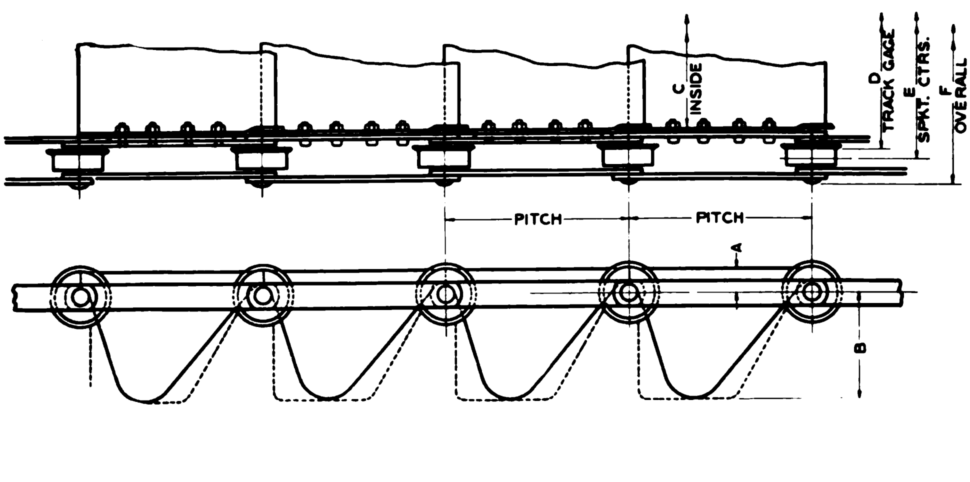
Pan Conveyors

Depressed Type (Steel)

Round Bottom Pan



Flat Bottom Pan with renewable wood lining



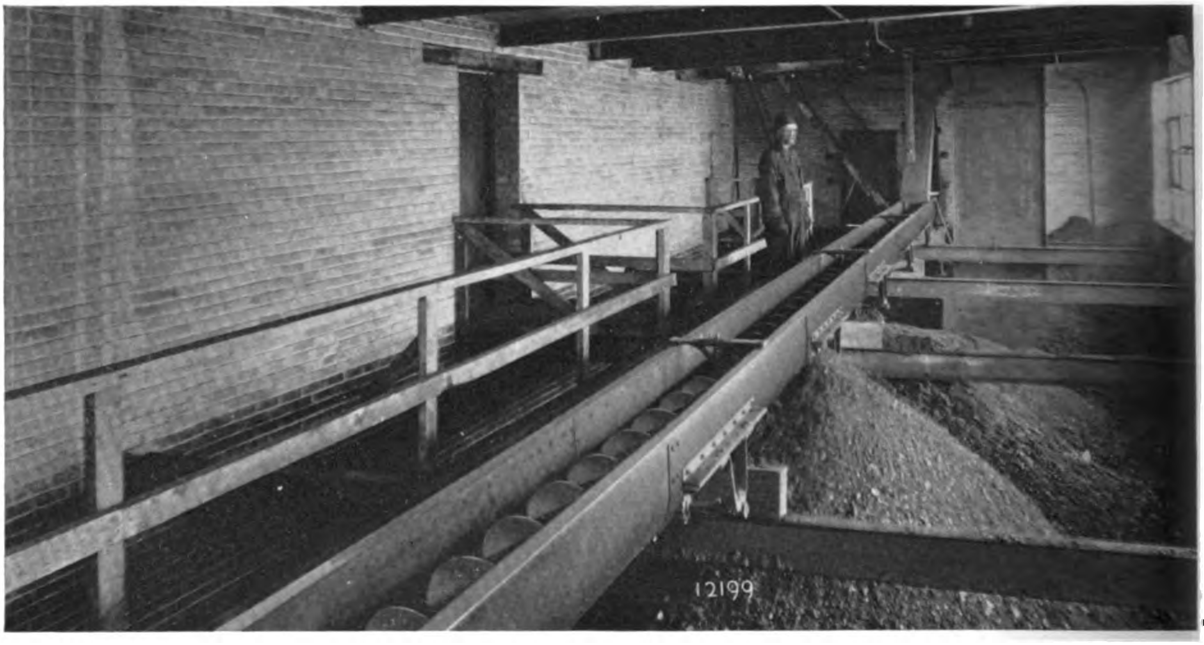
*Capacity in Cubic Feet per hour	*Capacity in Tons per hour	Chain		Weight per running ft. of Conveyors Lbs.	Dimensions—Inches					
		No.	Pitch		A	B	C	D	E	F
3240	162	276	12	55	3	6⅝	16	19	20	23½
5640	282	182½	18	115	2½	10½	23½	27½	29	33¾

*Capacities given for Conveyor Speed at 100 feet per minute handling material weighing 100 lbs. per cu. ft.

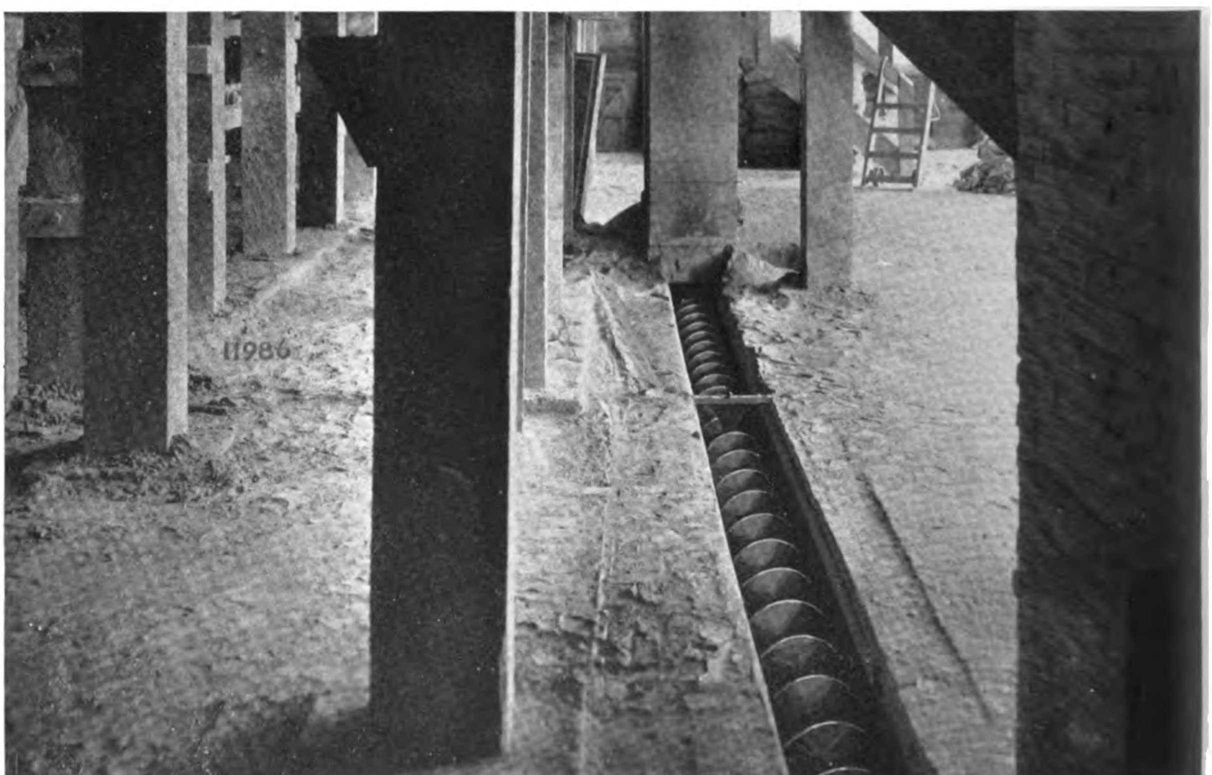
Spiral Conveyors

Section 13

Spiral Conveyors

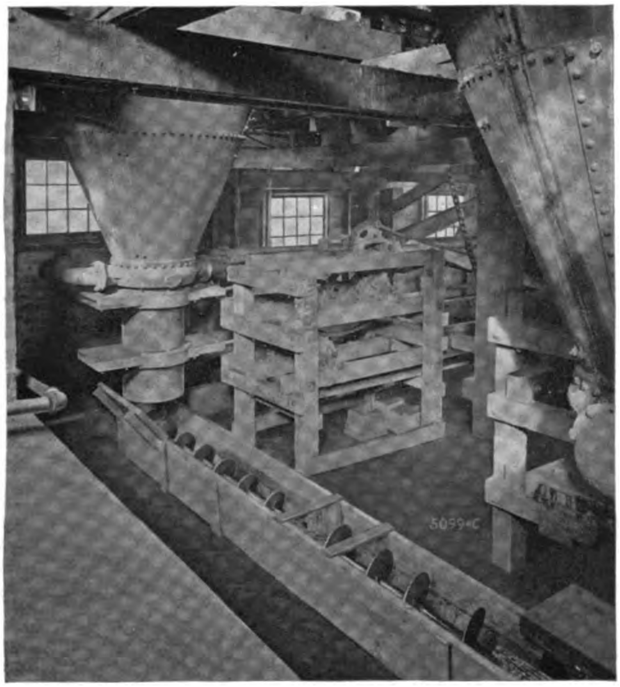


The Spiral Conveyor of moderate length is ideally adapted in its larger sizes to the handling of stoker size coal in small Boiler Houses where space will not permit of a return strand of chain, such as immediately under floors or directly under roofs. A Bucket Elevator feeds the Spiral Conveyor shown in the above installation, which distributes the coal over bunkers.

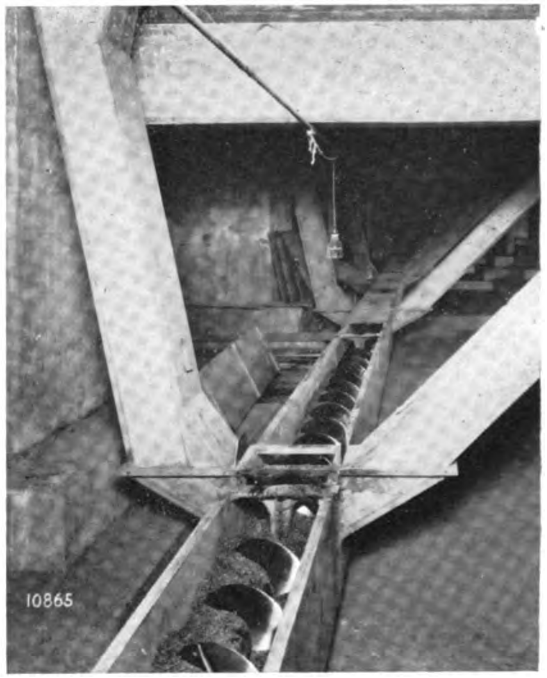


Operating in a trough which can be made dust tight if necessary, the Spiral Conveyor is particularly adapted to service in the handling of Fertilizer, Grain and other similar materials.

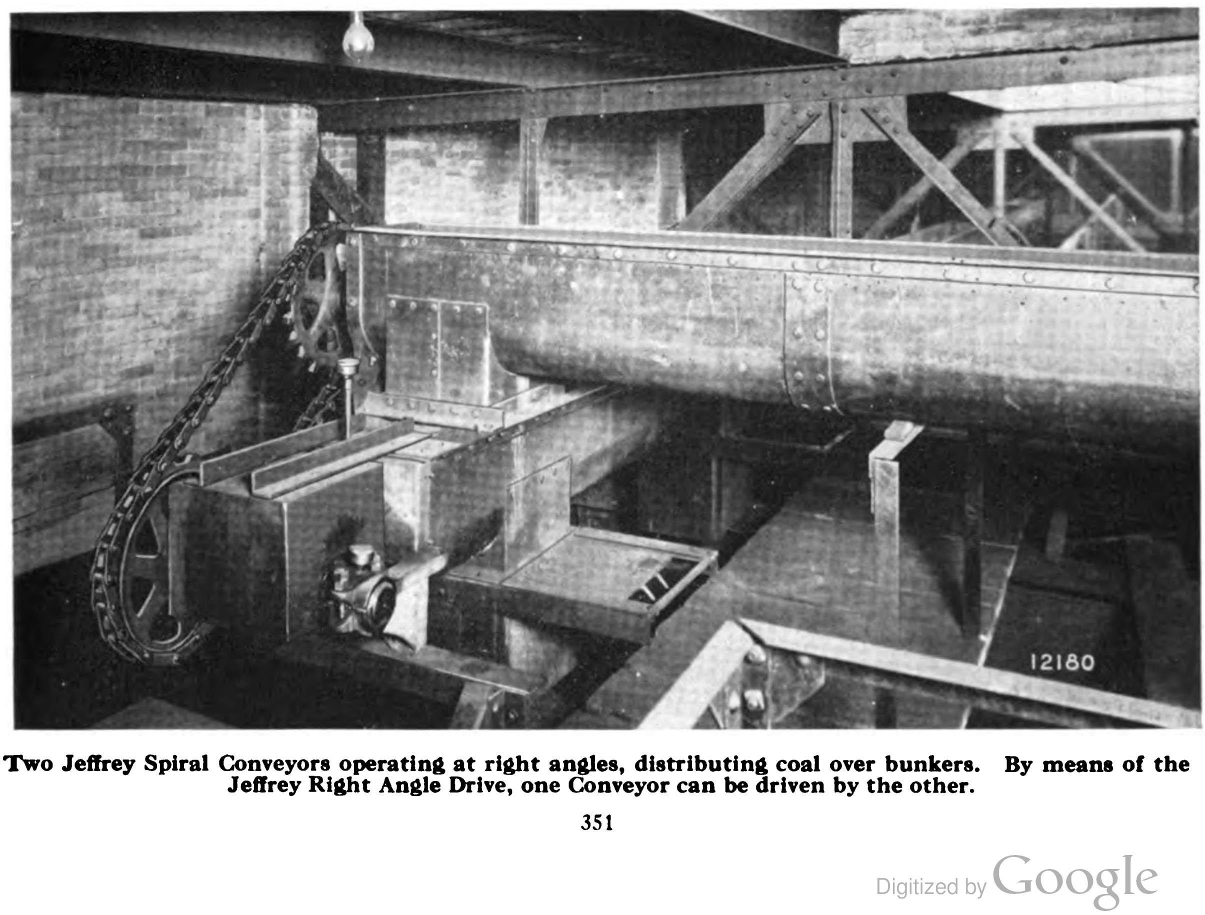
Spiral Conveyors



Jeffrey Spiral Conveyor handling coal in a washery.



Conveying Wheat in a flour mill with a Spiral Conveyor.



Two Jeffrey Spiral Conveyors operating at right angles, distributing coal over bunkers. By means of the Jeffrey Right Angle Drive, one Conveyor can be driven by the other.

Spiral Conveyors

SPIRAL Conveyors are made to carry loose bulk material which is not of a very gritty or sticky nature and of a maximum size not greater than one fourth the diameter of the spiral. The best service is rendered by a spiral conveyor handling lumpy, unsized or heavy abrasive materials such as Sand, Ashes, etc., when the depth of material does not exceed one-third the diameter of conveyor.

Ordinarily when handling non abrasive material of a size not greater than one-sixteenth the diameter of the conveyor, material should be fed uniformly so it will have a depth in the trough not greater than one-half the diameter of the Conveyor.

Grains and very light materials are often carried to a depth equal to the diameter of the spiral.

The Spiral Conveyor recommends itself for the handling of very fine and dusty materials as the trough can be fully enclosed. Ordinarily the Spiral Conveyor operates in a wood trough having a curved steel lining in the bottom, although a steel trough is often used.

The Spiral Conveyor can be fed at any point along its length and discharged at many places thru valves in the trough. See figures 5 and 6 page 88 for valves used in connection with Spiral Conveyors.

Spiral Conveyors should never be used to handle material likely to contain foreign substances such as scrap iron.

In selecting the size of a conveyor from the table below, it is always good practice and economy to use the next larger conveyor rather than to exceed "Sized Material" "Maximum Capacities" listed. In all cases the size of Conveyor should be governed by the maximum size piece rather than capacity. If then the capacity is greater than desired reduce the speed until the required capacity is reached. Do not run conveyors faster than necessary to obtain the capacity desired.

Dia. Conveyor Inches	Dia. Coupling Shaft Inches	Size of Pipe		Size Material		Kind Material—Gauge Flights—Max. Speeds—Capacities††								
						Light Non-Abrasive Material as Grain §			Heavy Non-Abrasive Material as Coal §			Heavy Abrasive Material as Sand and Ashes ‡		
		Sectional Conveyor	Helicoid Conveyor	Max. Uniform Size **	Max. Unsized †	Gauge Flights	Max Speed R.P.M.	Max. Cap'c'y Cu. Ft. Per Hr.	Gauge Flights	Max. Speed R.P.M.	Max. Cap'c'y Cu. Ft. Per Hr.	Gauge Flights	Max. Speed R.P.M.	Max. Cap'c'y Cu. Ft. Per Hr.
4	1	1	1¼	⅜	1	18	220	171	10	110	86	3/16	90	46
6	1½	1½	1¾	⅝	1½	16	200	528	10	100	264	3/16	80	138
9	1½	1½	2	¾	2¼	14	175	1659	10	85	806	3/16	70	405
9	2	2	2½	¾	2¼	12	175	1619	10	85	786	¼	70	405
10	1½	1½	2	⅞	2½	12	160	2096	10	80	1048	3/16	65	517
12	2	2	2½	1	3	12	150	3390	3/16	75	1695	¼	60	822
12	2 7/16	2½	3	1	3	12	150	3330	3/16	75	1665	¼	60	822
12	3	3	3½	1	3	12	150	3240	3/16	75	1620	5/16	60	822
14	2 7/16	2½	3	1⅛	3½	10	140	4018	1/16	70	2457	⅜	55	1199
16	3	3	3½	1⅜	4	10	130	6916	¼	65	3458	⅜	50	1630
16	3	4	4	1⅜	4	10	130	6685	¼	65	3341	⅜	50	1630
18	3	3	......	1½	4½	10	120	9180	¼	60	4590	⅜	45	2083
18	3	4	......	1½	4½	10	120	8900	¼	60	4590	⅜	45	2083
20	3	3	......	1¾	5	3/16	115	12155	¼	55	5813	⅜	45	2862
20	3	4	......	1¾	5	3/16	115	12155	¼	55	5813	⅜	45	2862

**About 90% of material of "Maximum Uniform Size" listed.

†Not more than 10% of the material to be of the "Maximum Unsized" listed.

††Capacities given are at maximum R. P. M. uniform and continuous flow of material for one hour. Other capacities directly proportional to speed. To maintain the listed capacities care must be taken that the quantities required can be fed to the conveyor under the operating conditions.

§Capacity figured with the depth of material equal to one-half diameter of conveyor.

‡Capacity figured with the depth of material equal to one-third diameter of conveyor.

When one conveyor discharges into another, the receiving conveyor, unless of larger diameter, should run 5 R. P. M. faster than the delivering conveyor and may exceed the maximum allowable speed by this amount.

The values given above are not given as specific rules but as guides in good general practice wherein there are acceptable variations depending upon the nature of the material handled, nature of the service, power consumption and the life of the conveyor.

For sticky materials consider use of Ribbon Conveyor. Information furnished upon request.

For wet gritty materials such as Ashes consider the use of Cast Iron Spiral Conveyor. Information furnished upon request.

Turning Spiral Conveyor end for end does not change it from one hand to the other but it does change the side of the flights working against the material.

Reversing the direction of rotation of a conveyor changes the direction in which the material travels.

Conveyors should operate with lugs on side opposite to the one in contact with the material.

Maximum angle of inclination with standard pitch 30 degrees.

Horse-power required for Spiral Conveyors.

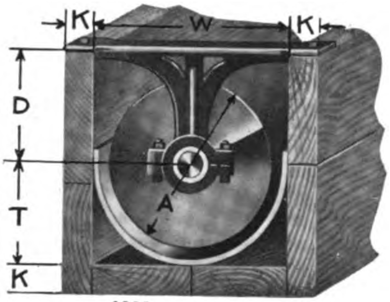
$$H.\ P. = \frac{F\ C\ L\ W}{33000}$$

C = Capacity of Conveyor in cu. ft. per minute.
L = Length of Conveyor in feet.
W = Weight of material in pounds per cu. ft.
F = 1.3 for light non-abrasive materials such as grain.
2.5 for heavy non-abrasive materials such as coal, cement, etc.
4.0 for heavy abrasive materials such as Sand, Ashes, etc.

The power required to drive a Spiral Conveyor depends entirely upon the nature of material handled. Therefore the above formula can be only approximately correct.

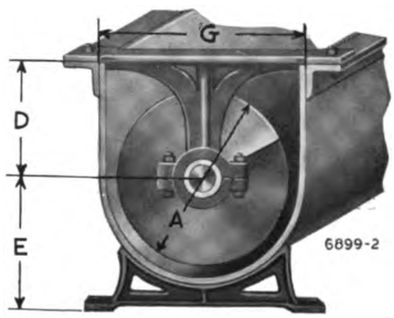
Spiral Conveyors

General Dimensions

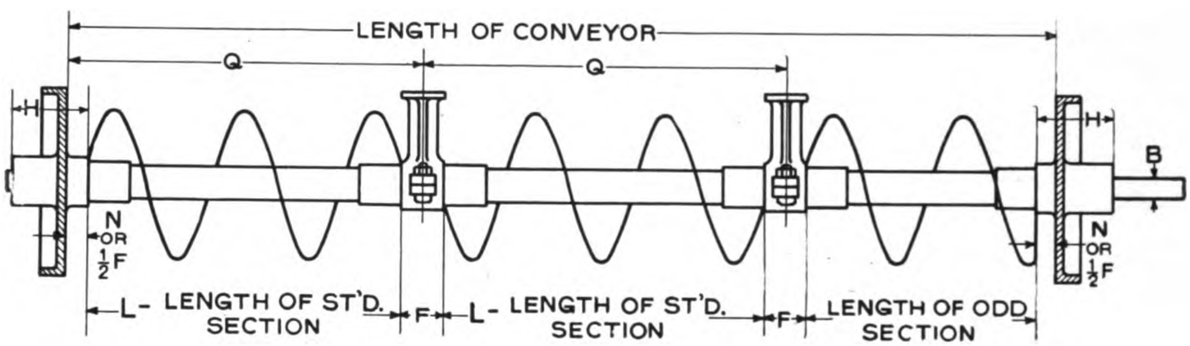


Wood Trough

The length of a Standard Section includes the length of one bearing.

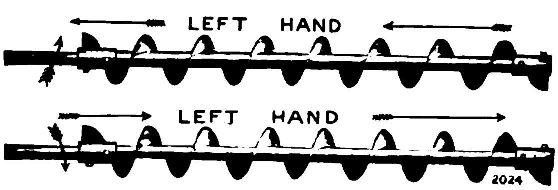


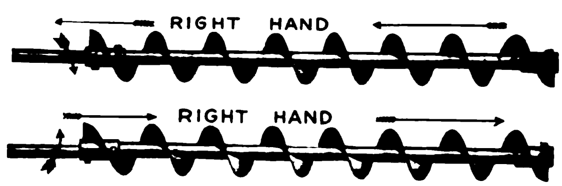
Steel Trough



Dia. Conveyor Inches A	Diam. Coupling Shaft Inches B	Size of Pipe		D	E	F*	G	H	K	L	N	Q	T	W
		Sectional Conveyor	Helicoid Conveyor											
4	1	1	1¼	3⅜	3⅜	1½	5	2	⅞	7'-10½"	¾	8'-0"	2½	5
6	1½	1½	1¾	4½	5	2	7	3	⅞	9'-10"	1	10'-0"	3½	7
9	1½	1½	2	6¼	6½	2	10	3	1¼	9'-10"	1	10'-0"	5	10
9	2	2	2½	6¼	6½	2	10	4	1¼	9'-10"	1	10'-0"	5	10
10	1½	1½	2	7	7 9/16	2	11	3	1¼	9'-10"	1	10'-0"	5½	11
12	2	2	2½	9	9	2	13¼	4	1¾	11'-10"	1	12'-0"	6½	13
12	2 7/16	2½	3	9	9	2½	13¼	5	1¾	11'- 9½"	1¼	12'-0"	6½	13
12	3	3	3½	9	9	3	13¼	6	1¾	11'- 9"	1½	12'-0"	6½	13
14	2 7/16	2½	3	9¼	9⅜	2½	15½	5	1¾	11'- 9½"	1¼	12'-0"	7½	15
16	3	3	3½	11	10½	3	17½	6	1¾	11'- 9"	1½	12'-0"	8½	17
16	3	4	4	11	10½	3	17½	6	1¾	11'- 9"	1½	12'-0"	8½	17
18	3	3	......	12½	11½	3	19½	6	1¾	11'- 9"	1½	12'-0"	9½	19
18	3	4	......	12½	11½	3	19½	6	1¾	11'- 9"	1½	12'-0"	9½	19
20	3	3	......	12½	12½	3	21½	6	1¾	11'- 9"	1½	12'-0"	10½	21
20	3	4	......	12½	12½	3	21½	6	1¾	11'- 9"	1½	12'-0"	10½	21

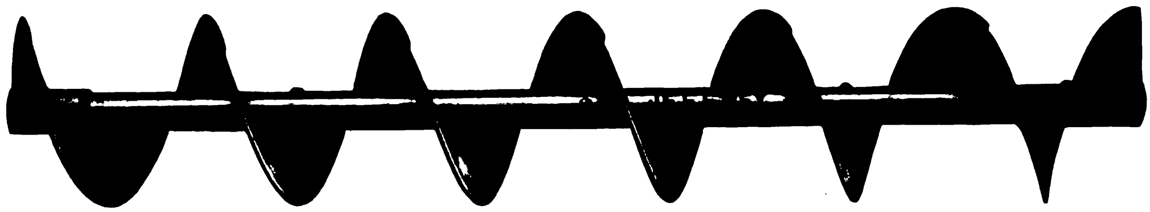
* Length of space occupied by hangers.





Spiral Conveyors

Sectional Flights



Sectional Flight Spiral is made of a series of single spiral turns riveted together and securely mounted on a hollow shaft.

Standard Sizes Carried in Stock

Dimensions of Standard Sizes with Standard Gauge Flights

For List Price—See Price List Bulletin

Diam. Conveyor Inches	†Gauge of Center Flight	Size Pipe Inside Inches	Size Coupling Inches	Approx. Pitch of Flights Inches	Standard Length Center to Center of Hangers Feet	Diam. Conveyor Inches	†Gauge of Center Flight	Size Pipe Inside Inches	Size Coupling Inches	Approx. Pitch of Flights Inches	Standard Length Center to Center of Hangers Feet
4	18	1	1	4	8	12	12	2	2	12	12
6	16	1½	1½	6	10	12	12	2½	2 7/16	12	12
9	14	1½	1½	9	10	12	12	3	3	12	12
9	14	2	2	9	10	14	10	2½	2 7/16	14	12
10	12	1½	1½	10	10	16	10	3	3	16	12
						18	10	3	3	18	12

†Recommended for Light Non-Abrasive Materials as Grain.

Extra Heavy Sectional Flight Conveyor

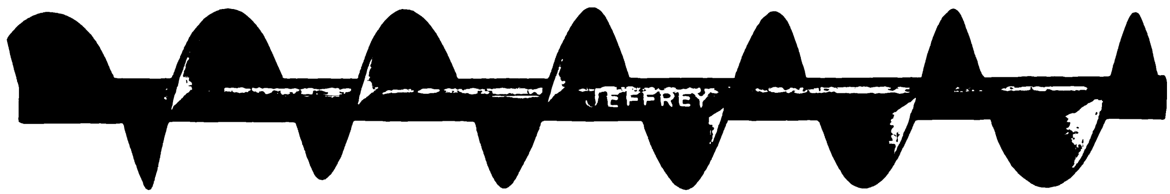
For List Price—See Price List Bulletin

Diam. Conveyor Inches	Thickness of Flights Inches	Size Pipe Inside Inches	Size Coupling Inches	Approx. Pitch of Flights Inches	Standard Length Center to Center of Hangers Feet	Diam. Conveyor Inches	Thickness of Flights Inches	Size Pipe Inside Inches	Size Coupling Inches	Approx. Pitch of Flights Inches	Standard Length Center to Center of Hangers Feet
						12	3/16	2	2	12	12
4	10 Ga.	1	1	4	8	12	1/4	2	2	12	12
4	3/16	1	1	4	8	12	3/16	2½	2 7/16	12	12
4	1/4	1	1	4	8	12	1/4	2½	2 7/16	12	12
						12	3/8	2½	2 7/16	12	12
						12	1/4	3	3	12	12
						12	3/8	3	3	12	12
6	10 Ga.	1½	1½	6	10	14	3/16	2½	2 7/16	14	12
6	3/16	1½	1½	6	10	14	1/4	2½	2 7/16	14	12
6	1/4	1½	1½	6	10	14	3/8	2½	2 7/16	14	12
9	10 Ga.	1½	1½	9	10	16	3/16	3	3	16	12
9	10 Ga.	2	2	9	10	16	1/4	3	3	16	12
9	3/16	1½	1½	9	10	16	3/8	3	3	16	12
9	3/16	2	2	9	10	16	1/2	4	3	16	12
9	1/4	1½	1½	9	10	18	3/16	3	3	18	12
9	1/4	2	2	9	10	18	1/4	3	3	18	12
9	3/8	2	2	9	10	18	3/8	3	3	18	12
						18	1/2	4	3	18	12
10	10 Ga.	1½	1½	10	10	20	3/16	3	3	18	12
10	3/16	1½	1½	10	10	20	1/4	3	3	18	12
10	1/4	1½	1½	10	10	20	3/8	3	3	18	12
						20	1/2	4	3	18	12

For Capacities and Maximum Speeds see page 352.
For General Dimensions, see page 353.
The length of Standard Sections include the length of one bearing.
For recommended Gauges for handling various materials, see Table page 352.

Steel Helicoid Continuous Flight Conveyor

HELICOID Conveyor in the standard gauges is interchangeable with the corresponding size of sectional Conveyor, that is, as the couplings are the same size for a given diameter of Conveyor the standard fixtures can be used with either type.



Sizes shown in **Bold Face Type** are **Carried In Stock** in Standard Lengths, flights and pipe.
Sizes shown in Regular Type are odd sizes, made on order only.

For List Price—See Price List Bulletin

Conveyor with Standard Gauge Flights

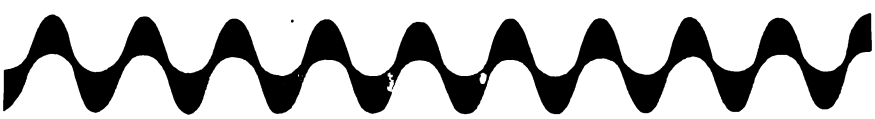
Dia. of Spiral Inches	Dia. Coupling Shaft Inches	Dia. Pipe Inside Inches	Thickness of Flight—Inches: Next to Pipe	Thickness of Flight—Inches: Outer Edge	Appr'x. Pitch Inches	Outside Dia. Pipe Inches	Length Stan'd Section Cen. to Cen. of Hanger
4	**1**	**1¼**	**.125**	**.05**	**4½**	**1⅝**	**8**
6	**1½**	**1¾**	**.125**	**.063**	**6½**	**2⅛**	**10**
9	**1½**	**2**	**.1875**	**.10**	**9½**	**2⅜**	**10**
10	**1½**	**2**	**.1875**	**.093**	**9½**	**2⅜**	**10**
12	**2**	**2½**	**.25**	**.12**	**12**	**2⅞**	**12**
14	**2 7/16**	**3**	**.25**	**.12**	**14½**	**3½**	**12**
16	**3**	**3½**	**.3125**	**.17**	**16½**	**4**	**12**

Conveyor with Extra Heavy Gauge Flights

Dia. of Spiral Inches	Dia. Coupling Shaft Inches	Dia. Pipe Inside Inches	Thickness of Flight—Inches: Next to Pipe	Thickness of Flight—Inches: Outer Edge	Appr'x. Pitch Inches	Outside Dia. Pipe Inches	Length Stan'd Section Cen. to Cen. of Hanger
4x	1	1¼	3/16	.11	4½	1⅝	8
6x	1½	1¾	¼	.125	6½	2⅛	10
6xx	1½	1¾	⅜	.20	6½	2⅛	10
9x	1½	2	⅜	.172	9½	2⅜	10
9xx	2	2½	⅜	.19	9½	2⅞	10
10xx	2	2½	⅜	.19	9½	2⅞	10
12x	2	2½	⅜	.17	12	2⅞	12
12xx	2 7/16	3	⅜	.18	12	3½	12
12xxx	3	3½	½	.25	12	4	12
14xx	3	3½	7/16	.234	14½	4	12
16xxx	3	4	½	.25	16½	4½	12

The Length of Standard Sections include length of one bearing.
For Capacities and Maximum Speeds, see page 352.
For General Dimensions, see page 353.

Helicoid Conveyor Flights

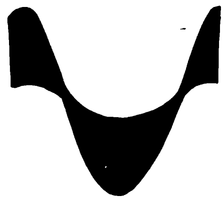


For List Price—See Price List Bulletin

Dia. of Spiral Inches	Dia. Coupling Shaft Inches	Dia. Pipe Inside Inches	Thickness of Flight—Inches: Next to Pipe	Thickness of Flight—Inches: Outer Edge	Approx. Pitch Inches	Outside Dia. Pipe Inches	Dia of Spiral Inches	Dia. Coupling Shaft Inches	Dia. Pipe Inside Inches	Thickness of Flight—Inches: Next to Pipe	Thickness of Flight—Inches: Outer Edge	Approx. Pitch Inches	Outside Dia. Pipe Inches
4 Std.	1	1¼	.125	.05	4½	1⅝	10xx	2	2½	.375	.19	9½	2⅞
4x	1	1¼	.1875	.11	4½	1⅝	12 Std.	2	2½	.25	.12	12	2⅞
6 Std.	1½	1¾	.125	.063	6½	2⅛	12x	2	2½	.375	.17	12	2⅞
6x	1½	1¾	.25	.125	6½	2⅛	12xx	2 7/16	3	.375	.18	12	3½
6xx	1½	1¾	.375	.20	6½	2⅛	12xxx	3	3½	.50	.25	12	4
9 Std.	1½	2	.1875	.10	9½	2⅜	14 Std.	2 7/16	3	.25	.12	14½	3½
9x	1½	2	.375	.172	9½	2⅜	14xx	3	3½	.44	.24	14½	4
9xx	2	2½	.375	.19	9½	2⅞	16 Std.	3	3½	.31	.17	16½	4
10 Std.	1½	2	.1875	.093	9½	2⅜	16xxx	3	4	.50	.25	16½	4½

In ordering state whether Right or Left Hand is wanted.

Spiral Conveyors



Sectional Conveyor Flights

In ordering flights be particular to state pitch of screw, inside or outside diameter of pipe, and whether right or left hand.

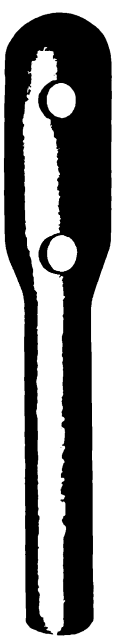
For List Price—See Price List Bulletin

Size	Standard Gauge Center Flights	Standard Gauge End	Thickness of Flights 16 Gauge	14 Gauge	12 Gauge	10 Gauge	3/16"	1/4"	5/16"	3/8"	1/2"	Approx. Pitch Inches	Diam. Inside Inches
4"	18	16	*	*	*	*	*	*	......	......	......	4	
6"	16	14	*	*	*	*	*	*	*	*	......	6	
9"	14	12	......	*	*	*	*	*	*	*	*	9	See Page
10"	12	10	......	......	*	*	*	*	*	*	*	10	354 for
12"	12	10	......	......	*	*	*	*	*	*	*	12	Pipe Sizes
14"	10	10	......	......	......	*	*	*	*	*	*	14	
16"	10	10	......	......	......	*	*	*	*	*	*	16	
18"	10	10	......	......	......	*	*	*	*	*	*	18	
20"	3/16	3/16	......	......	......	......	*	*	*	*	*	20	

*Indicates those Gauges that are ordinarily furnished in the above sizes.

Drop Forged Flight Supports or Fastenings

The end flights of conveyors are securely riveted to end lugs which are screwed into the thick collars on ends of hollow shafts. Intermediate flights are riveted to center lugs, spaced at proper intervals, which extend through both walls of hollow shafts and are then riveted.



Center Lug

Diameter and style of Conveyor and Pipe	Center Lugs Diam. Shank	Center Lugs Price Each	End Lugs Diam. Shank	End Lugs Price Each
4" on 1"	3/8"		1/2"	
4" on 1¼"	3/8"		1/2"	
6" on 1½"	1/2"		1/2"	
6" on 1¾"	1/2"		1/2"	
9" on 1½"	1/2"		3/4"	
9" on 2"	1/2"		3/4"	
9" on 2½"	1/2"		3/4"	
10" on 1½"	1/2"	See	3/4"	See
10" on 2"	1/2"		3/4"	
10" on 2½"	1/2"	Price	3/4"	Price
12" on 2"	1/2"		7/8"	
12" on 2½"	5/8"	List	7/8"	List
12" on 3"	5/8"		7/8"	
12" on 3½"	5/8"	Bulletin	7/8"	Bulletin
14" on 2½"	5/8"		7/8"	
14" on 3"	5/8"		7/8"	
14" on 3½"	5/8"		7/8"	
16" on 3"	5/8"		7/8"	
16" on 3½"	5/8"		7/8"	
16" on 4"	5/8"		7/8"	
18" on 3"	5/8"		7/8"	
18" on 4"	5/8"		7/8"	

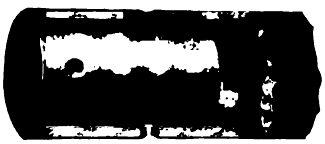
End Lug

Spiral Conveyors

Collars for Conveyor Pipes

For List Price—See Price List Bulletin

External Collar

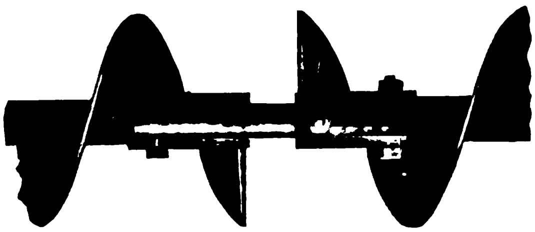


Internal Collar

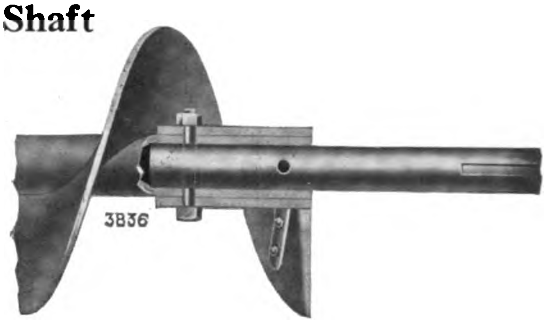
External for Sectional Flight Conveyor			Internal for Helicoid Conveyor		
To Fit Hollow Shaft of			To Fit Hollow Shaft of		
Nominal Inside Dia. Inches	Actual Outside Dia. Inches	Size Coupling	Nominal Inside Dia. Inches	Actual Inside Dia. Inches	Size Coupling
1	1.315	1	1¼	1.380	1
1½	1.900	1½	1¾	1.813	1½
2	2.375	2	2	2.067	1½
2½	2.875	2½	2½	2.468	2
3	3.500	3	3	3.067	2 7/16
			3½	3.548	3
			4	4.026	3

These collars are not drilled, and while of approximately correct dimensions, they require more or less blacksmith work to properly attach them to the conveyor shafts.

Coupling and Drive Shaft



Coupling Space between Conveyor Sections is for Hanger.



Drive End Projections from Pipe as listed are for average conditions. Change in projections made upon order.

Coupling Shafts—Drilled for Bolts		Drive End Shaft—Drilled for Bolts For Prices—See Price List Bulletin				Tail End Shaft—Drilled for Bolts		
Diam. Shaft Inches	Length Overall Inches	Diameter of Shaft Inches	*Projection for Standard Drive Shafts Inches	Length Overall Standard Drive Shaft Inches	Length of Keyway Inches	Diam. of Shaft Inches	Length Overall For End Bearings	Length Overall For Hangers
1	7½	1	6	9	4	1	5¼	4¾
1½	12	1½	9	14	6	1½	8¼	7¼
2	12	2	10	15	6	2	9¼	7¼
2 7/16	12½	2 7/16	11	16	6	2 7/16	10¼	7¾
3	12½	3	12	17	6	3	11	8

To arrive at the approximate length over all for **Drive Shafts** add 3" for 1" diameter shafts and 5" for larger diameter shafts.

*Extra Length at additional cost.

Bolts for Conveyor Couplings

See Machine Bolts, page 564.

Square Heads, Hexagon Nuts

*Used for Helicoid Conveyor on 2⅜" outside diameter pipe.

†Used for Helicoid on 2⅜" outside diameter pipe, and for Sectional Flight Conveyor on 1½" inside diameter pipe.

Diam. of Couplings Drive Ends Tail Ends Inches	Size of Bolt Inches
1	⅜x2
*1½	½x2¼
†1½	½x3
2	⅝x3¼
2½	⅝x4½
3	¾x5
3½	¾x5½

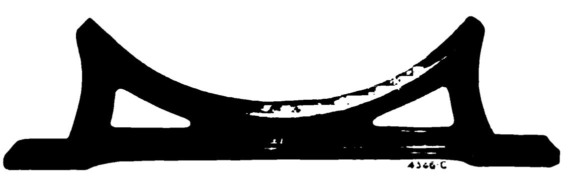
Spiral Conveyors

Steel Trough for Steel Spiral Conveyor

For general dimensions of trough, see page 353.

For List Prices—See Price List Bulletin

Diam. Conveyor Inches	Trough, without Cover			Cover	
	Gauge Steel	Size Angles	Approx. Weight per Foot Lbs.	Gauge Steel	Approx. Weight per Foot Lbs.
4	18	1¼x1¼x3/16	5½	20	1
	16	1¼x1¼x3/16	6½	20	1
	14	1¼x1¼x3/16	7½	20	1
6	16	1¼x1¼x3/16	7½	18	2
	14	1¼x1¼x3/16	9	18	2
	12	1¼x1¼x3/16	11	18	2
	10	1¼x1¼x3/16	13	18	2
9	14	2 x1½x3/16	13	16	3
	12	2 x1½x3/16	16	16	3
	10	2 x1½x3/16	19	16	3
	3/16	2 x1½x3/16	24	16	3
	¼	2 x1½x3/16	31	16	3
10	14	2 x1½x3/16	14	16	3½
	12	2 x1½x3/16	17½	16	3½
	10	2 x1½x3/16	20½	16	3½
	3/16	2 x1½x3/16	26½	16	3½
	¼	2 x1½x3/16	34½	16	3½
12	12	2 x2 x3/16	20½	16	4
	10	2 x2 x3/16	25	16	4
	3/16	2 x2 x3/16	31½	16	4
	¼	2 x2 x3/16	41	16	4
14	12	2 x2 x3/16	22	16	4½
	10	2 x2 x3/16	27	16	4½
	3/16	2 x2 x3/16	35	16	4½
	¼	2 x2 x3/16	45	16	4½
16	12	2 x2 x3/16	25	16	5
	10	2 x2 x3/16	30	16	5
	3/16	2 x2 x3/16	39	16	5
	¼	2 x2 x3/16	51	16	5
18	10	2½x2 x¼	37	14	7½
	3/16	2½x2 x¼	45	14	7½
	¼	2½x2 x¼	60	14	7½
20	10	2½x2 x¼	40	14	7½
	3/16	2½x2 x¼	48	14	7½
	¼	2½x2 x¼	63	14	7½



Short Saddles for Steel Trough

For List Prices—See Price List Bulletin

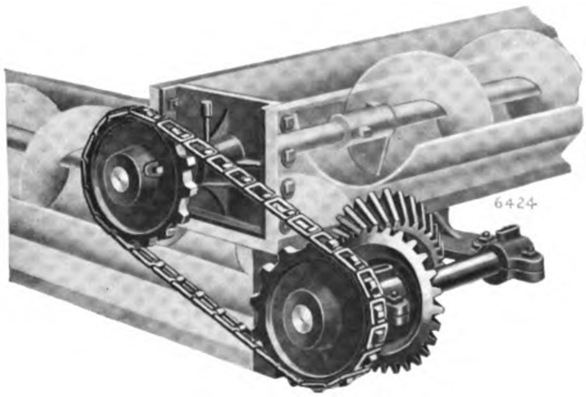
Diameter Conveyor Inches	4	6	9	10	12	14	16	18
Pattern Number	20645	20646	20647	25468	20648	20649	20650	20651

Spiral Conveyors

Fittings for Steel Spiral Conveyors

Right Angle Drives

Including End Bearings, Gears, Shafts, Sprockets, Chains and Set Collars

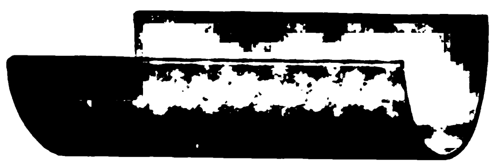


Right Angle Drive

Dia. Spiral Inches	Dia. Shaft Inches	List Price For Wood or Steel Trough
4	1	
6	1½	
9	1½	See
9	2	
10	1½	Price
12	2	
12	2 7/16	List
12	3	
14	2 7/16	Bulletin
16	3	

When Right Angle Drives are furnished for Long Conveyors requiring Chains and Sprockets other than Detachable Link Belt, extra charge is made.

Steel Linings for Wood Conveyor Boxes



2023

Standard Lining

Diameter Conveyor Inches	Gauge of Steel	Width of Sheet Inches	Length of Sheet Inches	Price Per Lineal Foot
4	24	8	30	
6	24	12	30	See
9	22	16	30	
10	20	20	30	Price
12	20	24	30	
14	18	28	30	List
16	18	32	30	
18	18	36	30	Bulletin
20	18	40	30	

Heavy Lining for Wood Boxes

For List Price—See Price List Bulletin

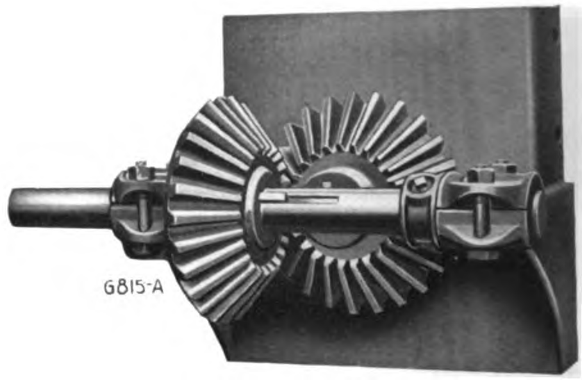
Diam. Conveyor Inches	Width Sheet Inches	Length Sheet Inches	Gauge of Lining—Price Per Lineal Foot								
			22	20	18	16	14	12	10	3/16"	¼"
4	8	30	*	*	*	*	......	......	......	......	......
6	12	30	*	*	*	*	*	......	......	......	......
9	16	30	......	*	*	*	*	*	*	......	......
10	20	30	......	......	*	*	*	*	*	......	......
12	24	30	......	......	*	*	*	*	*	*	......
14	28	30	......	......	......	*	*	*	*	*	......
16	32	30	......	......	......	*	*	*	*	*	*
18	36	30	......	......	......	*	*	*	*	*	*
20	36	30	......	......	......	*	*	*	*	*	*

*Indicates those sizes made in gauges listed.

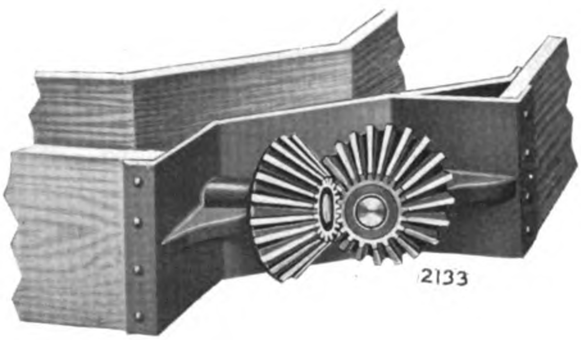
Spiral Conveyors

End Bearings for Wood Trough

Plain End Bearing



Countershaft End Bearing



Miter Gear End Bearing

Discharge End Bearing

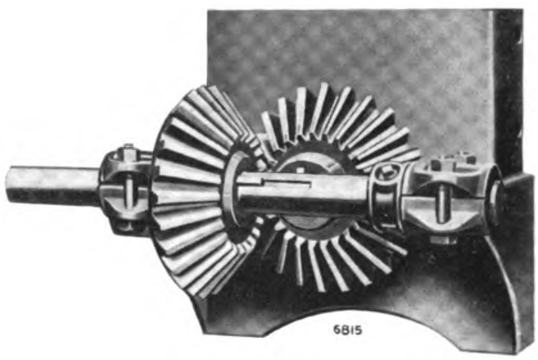
For List Price—See Price List Bulletin

Diam. Spiral Inches	Diam. Shaft Inches	Plain End Bearing Pattern No.	Discharge End Bearing Pattern No.	Countershaft End Bearing Pattern Numbers			Miter Gear End Bearing Pattern Numbers	
				Body	Brg. Cap	Gears	Body	Gears
4	1	26515	26892	27380	27381	24680	....	....
6	1½	22351	26895	22458	25815	24383 and 24384	8771	C-6
9	1½	22352	26899	22459	25815	24379 and 25926	5899	5607
9	2	26516	26900	60887	25817	24381 and 24382	....	....
10	1½	25931	26902	25927	25815	25926	25932	5607
12	2	22355	26905	22462	25817	24381 and 24382	25933	4814
12	2 7/16	26599	26906	62472	61894	61897	....	....
12	3	26600	26907	60978	60960	60961	....	....
14	2 7/16	26601	26909	62475	61894	61897	....	....
16	3	26518	26912	27036	25824	25416	....	....
18	3	26605	26914	62478	25824	25416	....	....
20	3	26606	26915	....	....	....	....	....

End Bearings for Steel Trough

Plain End Bearing

Discharge End Bearing



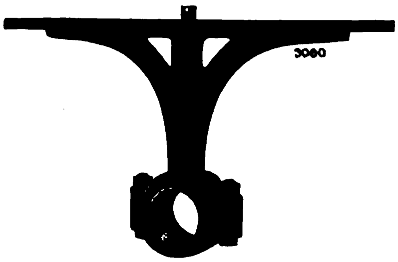
Countershaft End Bearing

For List Price—See Price List Bulletin

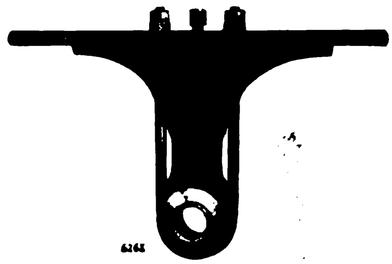
Diam. Spiral Inches	Diam. Shaft Inches	Plain End Bearing Pattern No.	Discharge End Bearing Pattern No.	Countershaft End Bearings Pattern Numbers		
				Body	Brg. Cap	Gears
4	1	26847	26928	60974	27381	24680
6	1½	26850	26931	60962	25815	24383 and 24384
9	1½	26854	26935	27022	25815	24379 and 25926
9	2	26855	26936	60888	25817	24381 and 24382
10	1½	26857	26938	62481	25815	25926
12	2	26860	26941	60957	25817	24381 and 24382
12	$2\frac{7}{16}$	26861	26942	62484	61894	61897
12	3	26862	26943	60959	60960	60961
14	$2\frac{7}{16}$	26864	26945	61893	61894	61897
16	3	26867	26948	22451	25824	25416
18	3	26869	26950	62487	25824	25416
20	3	26870	26951	....	....	....

Spiral Conveyors

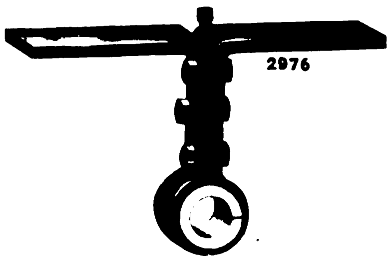
Hangers for Steel Spiral Conveyors



No. 13 Hanger (Babbitted)



No. 17 Hanger (Babbitted)

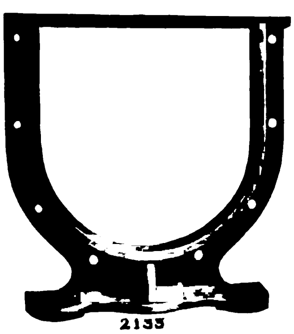


No. 20 Hanger
Chilled Cast Iron Bearing

For List Price—See Price List Bulletin

Diam. Conveyor In.	Diam. Coupling In.	Length of Bearing In.	Style of Hanger						
			No. 13		No. 17				No. 20
					Pattern Number				
					Babbitted		Chilled		
			Pattern No. Body	Pattern No. Babbitted Bearing	Body	Bearing Cap	Body	Bearing Cap	Pattern Chilled Bearing
4	1	1 3/8	26045	26046	26507	26508	26711	26712	....
6	1 1/2	1 7/8	22411	22412	19415	26509	26716	26715	8144 and 8145
9	1 1/2	1 7/8	22414	22412	19417	26509	26721	26715	8144 and 8145
9	2	1 7/8	26578	22418	26511	26505	26722	26718	5538 and 5539
10	1 1/2	1 7/8	25917	22412	25980	26509	26725	26715	8144 and 8145
12	2	1 7/8	22422	22418	19419	26505	26728	26718	5538 and 5539
12	2 7/16	2 3/8	26580	26581	26646	26644	26729	26724	5548 and 5549
12	3	2 7/8	26582	26583	26647	24323	26730	26731	5923 and 5924
14	2 7/16	2 3/8	26629	26581	26648	26644	26733	26724	5548 and 5549
16	3	2 7/8	26585	26583	24322	24323	26736	26731	5923 and 5924
18	3	2 7/8	26586	26583	26653	24323	26739	26731	5923 and 5924
20	3	2 7/8	26632	26583	26654	24323	26740	26731	5923 and 5924

Flanged Saddles for Steel Trough



For List Price—See Price List Bulletin

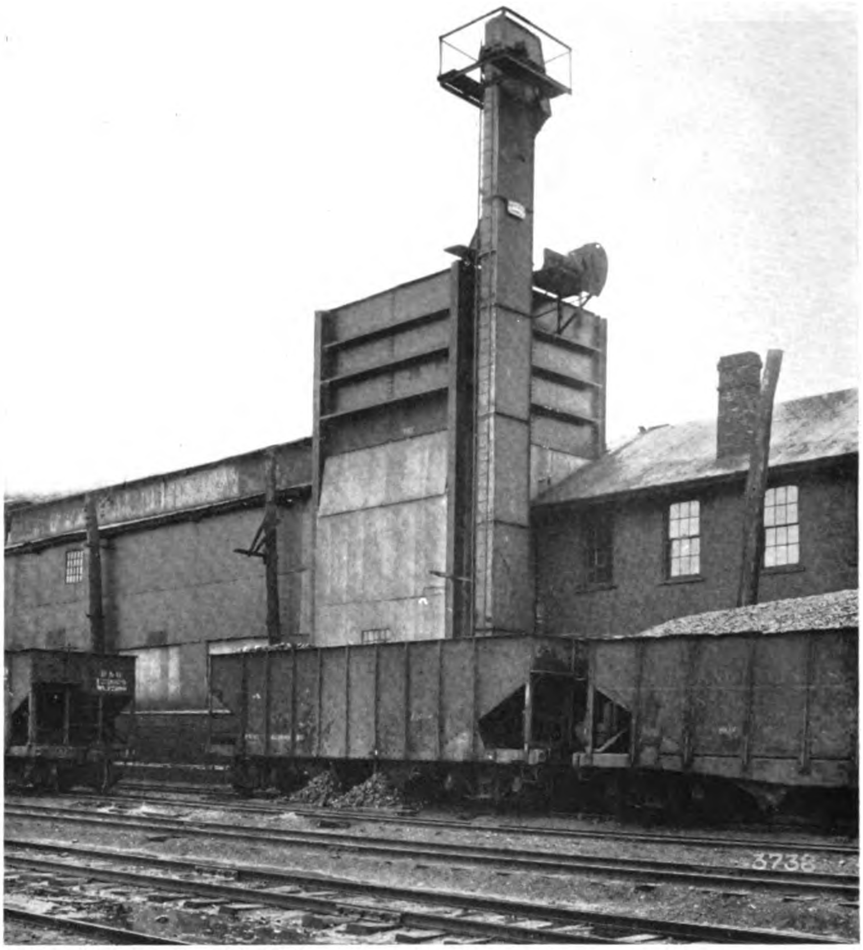
Diameter Conveyor Inches	With Feet as Illustrated	Without Feet for Unsupported Joint
4	62490	62498
6	62491	62499
9	62492	62500
10	62493	62501
12	62494	62502
14	62495	62503
16	62496	62504
18	62497	62505

For general dimensions of Steel Spiral Conveyor, see page 353.

Standard Bucket Elevators

Section 14

Bucket Elevators



Seventy-five feet of Jeffrey Standard Elevator handling 30 tons of crushed coal per hour at a large steel plant in the Pittsburgh district. This complete Jeffrey equipment consists of a 12'-0" x 12'-0" steel track hopper, reciprocating plate feeder, single roll coal crusher, elevator and an electrically controlled traveling hopper which distributes the coal to the stokers.
This plant is also equipped with a Jeffrey Standard Ashes Elevator which elevates the ashes from the boiler room floor and discharges them directly into railroad cars.

The Advantages of using Jeffrey Standardized Elevators

JEFFREY Standard Elevators are made vertical or upon an incline and can be furnished with or without steel casings. Their capacities range from 6½ to 80 tons per hour with vertical lifts of from 10 to 75 feet. They consist of endless chains provided with buckets, of steel or malleable iron, spaced at short equal intervals, or close together as indicated on the detailed drawings given throughout this section.

Make quicker delivery possible.

Heretofore, when an elevator was specified, it was necessary to make layouts and complete drawings for that particular elevator; thus entailing considerable expense and much delay. Now all this cost is saved the purchaser by specifying one of the 56 Standard Elevators given in this section. In addition to saving the expense of layouts and drawings, the purchaser is further benefited by a quicker delivery, made possible by the placing of Jeffrey Standard Elevators upon a manufacturing basis. The ease with which a Standard Elevator or other Standard units can be selected to exactly meet your requirements will quickly give this book a place of ready reference in your files.

Capacities of Jeffrey Elevators

THE Capacities of the Standard Elevators listed in this book range from 6½ to 80 tons per hour. The nature of the materials handled may vary from non or semi-gritty materials, such as grains, coal and similar materials to gritty substances, such as ashes, coke, sand, gravel and stone. The size of material may vary from dust to 4½″ cubes.

The Elevators are designated as Coal, Ashes and Stone Elevators, simply because these materials are typical of the class of materials for which the different types of Elevators are adapted. Likewise, Coal, Ashes and Stone weighing approximately 50, 40 and 100 lbs. per cu. ft. respectively, offer a convenient basis from which to figure the capacity of an elevator when handling material of a greater or lesser weight.

The capacities given in table on the following page are figured upon a basis of the buckets being 80% level full, this having been found by experiment to be the average condition of the buckets when the elevator is in operation.

In the selection of an elevator for handling lumpy material the size of the buckets is determined by the size of the pieces to be handled rather than by the capacity. Often the amount of material to be elevated may be small but the size of the pieces might be so large as to require a large size bucket irrespective of the capacity.

The capacities given in table are based on a certain weight per cubic foot of the material handled as stated under each classification, so if the material to be handled is of lesser weight than that given in the table the capacity must be reduced in direct proportion. For example, Bark would be handled in a Coal Elevator but as bark weighs 17 lbs. per cu. ft. and coal weighs 50 lbs. per cu. ft., the capacity of the elevator handling bark would be $\frac{17}{50}$ of that given in the table for a coal elevator.

On the other hand if the material to be handled is heavier than that given in the table some provision should be made in the way of a feeder or regulating gate to insure that no more material enters the elevator boot or loading leg than the elevator is listed to handle, otherwise the elevator would be overloaded as the buckets will hold the same volume of stone as coal while by weight the same buckets will carry twice as much stone as coal, stone weighing approximately twice as much as coal.

As an aid in the selection of an elevator a list of materials quite common to elevator work, is given here together with the weight per cu. ft., and opposite each item the class of elevator, which is best adapted for handling that particular material.

Table of Weights and Elevator Classifications for Bulk Materials

Name of Material	Weight per Cu. Ft. Lbs.	Elevator Classification
Ashes	40	Ashes
Beans	50	Coal
Bark (Hemlock)	17	Coal
Baryte	180	Stone
Bones	50	Coal
Cinder (Blast Furnace)	57	Ashes
Chips	18	Coal
Coal	50	Coal
Coke	30	Ashes
Clay (Dry)	63	Stone
Corn (Shelled)	45	Coal
Cement Clinker	95	Stone
Chalk (Solid)	156	Stone
Cement	100	Stone
Corn Meal	40	Coal
Earth (Loose)	69	Stone
Earth-Fullers	30	Coal
Feldspar	166	Stone
Flax Seed	45	Coal
Flour		
Gravel	120	Stone
Grain	48	Coal
Gypsum	100	Stone
Garbage	27	Coal
Glass Batch	90	Stone
Ice	57	Coal
Iron Ore	175	Stone
Lime	64	Stone
Limestone	96	Stone
Marl	79	Stone
Oats	26	Coal
Plaster of Paris	56	Stone
Quartz	94	Stone
Stone	100	Stone
Sand (Dry)	90	Stone
Sand (Damp)	96	Stone
Salt	55	Coal
Shale	92	Stone
Slag	170	Stone
Trap	107	Stone
Wheat	48	Coal

Bucket Elevators

Some Important Things to Note before ordering Your Elevators

IT will be noted by referring to the table below that the **COAL ELEVATORS** are furnished with or without steel casings.

The **ASHES ELEVATORS** are always furnished with steel casings unless otherwise ordered as we have found that in the majority of cases an ashes elevator is at least partly within the boiler room where a casing is essential. The Ashes Elevators are also furnished with a hopper and 3″ mesh grating to prevent large clinker from entering into the boot and the discharge spout is lined with heavy renewable lining plates.

The **STONE ELEVATORS** are furnished in two distinct types; the Centrifugal Discharge Type with buckets at intervals and the Continuous Bucket Type where there is no space between the buckets. While the first cost of the Continuous Type of elevator is a little in excess of the Centrifugal Discharge Type, the cost per ton of material handled is much less due to decreased wear because of its slow speed and the elimination of the pick-up wear incident to buckets used at intervals.

Continuous Bucket Elevators are not furnished with cast iron boots but are provided with footshaft and takeup bearings and a steel loading leg for loading the material directly into the buckets. Also casings are not ordinarily furnished with Stone Elevators of either type as this class of elevators is generally used for rough outside work where a steel casing is not desired. If on the other hand a casing is required same can be furnished and prices will be quoted upon application.

Centrifugal Stone Elevators are divided into two classes,—vertical and inclined. The machinery parts of both are identical except that the inclined elevators are furnished with simply a footshaft and takeups instead of a cast iron boot and are intended to meet the requirements where it is desired to build a concrete or wood boot,—or the nature of the material is such as to form its own boot.

The Inclined Centrifugal and Continuous types of elevators may be installed vertically if desired, in which case it is not necessary to use idlers to support the carrying strand. The number of idlers required for the inclined elevators can be found by consulting the line drawings on pages 385 and 387 which give the proper spacing.

Table of Capacities and Index to Elevators.

	Capacity Tons per Hour	Max. Size Pieces	0-40 ft. Centers		41-80 ft. Centers		REMARKS
			Elevator Number	Page Number	Elevator Number	Page Number	
COAL or Similar Material Weighing Approx. 50 lbs. per cu. ft.	6.5	2.5″	103	376	132	376	With Steel Casings
			1103	378	1132	378	Without Steel Casings
	12.2	3″	108	376	137	376	With Steel Casings
			1108	378	1137	378	Without Steel Casings
	14	3.5″	111	376	140	376	With Steel Casings
			1111	378	1140	378	Without Steel Casings
	23.2	4″	115	376	144	376	With Steel Casings
			1115	378	1144	378	Without Steel Casings
	25	4″	119	376	149	376	With Steel Casings
			1119	378	1149	378	Without Steel Casings
	36	4.5″	122	376	152	376	With Steel Casings
			1122	378	1152	378	Without Steel Casings
ASHES 40 lbs. per cu. ft.	17	4″	166	380	179	380	With Steel Casings and Cast Iron Gratings
	17	4″	167	380	180	380	
	21	4″	169	380	182	380	
	21	4″	170	380	183	380	
STONE 100 lbs. per cu. ft. Centrifugal Discharge Type	9.8	2.5″	204	382	229	382	Vertical Without Casings
			1204	384	1229	384	Inclined Without Casings
	24.5	3″	208	382	233	382	Vertical Without Casings
			1208	384	1233	384	Inclined Without Casings
	26	3.5″	212	382	237	382	Vertical Without Casings
			1212	384	1237	384	Inclined Without Casings
	36	4″	216	382	241	382	Vertical Without Casings
			1216	384	1241	384	Inclined Without Casings
	60	4″	220	382	245	382	Vertical Without Casings
			1220	384	1245	384	Inclined Without Casings
STONE Continuous Bucket Type			0-30 ft. Centers		31-60 ft. Centers		Inclined Without Casings Complete with Loading Chute. Idlers as ordered
	39	3.5″	258	386	283	386	
	80	4.5″	266	386	290	386	

How to Select a Jeffrey Standard Elevator

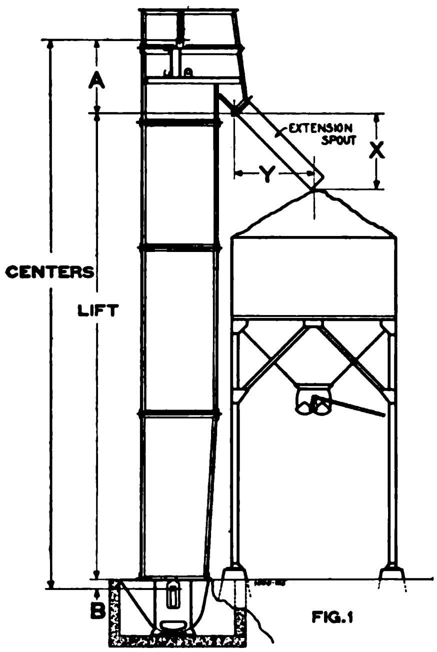


FIG. 1

REFER to the list of material on page 365 and opposite each kind of material will be found its weight per cubic foot and the class of elevator which will best handle the material designated as Coal, Ashes or Stone. If material to be handled is not listed, select if possible, some material that is similar to that required. Having ascertained which class of elevators is best to handle the material, refer to the table of Capacity and Index to Elevators, on page 366, and under the proper classification select the size elevator that will best suit the requirements in the matter of capacity and size of pieces to be handled. By referring to the page given in table opposite the elevator selected, a complete specification of the elevator, together with photographs, dimension drawings, etc. will be found.

Having selected an elevator that will meet the requirements it is now necessary to determine the **CENTERS** or distance from center of foot shaft to center of head shaft, as this is quite essential in ordering or requesting price on an elevator.

The **CENTERS,** in the case of a vertical elevator as shown in Fig. 1, can be found by adding dimensions A and B to the Lift. The value of A and B is given on the line drawing of the elevator selected. See pages 376 to 383. The **LIFT** is the vertical distance from the top of the boot, or point at which the material is received into the elevator, to the bottom of the discharge point of the casing, or the point at which the material leaves the casing. When it is desired to spout the material from the discharge point of the casing to some certain point or to fill a bin as illustrated in Fig. 1, it is, of course, necessary to have the discharge point of the elevator high enough above the point to which the material is to be spouted to obtain a sufficient angle to the chute to insure a good flow of material.

In the Standard Elevators the discharge chute of the casing or head chute is 45 degrees and with the extension spout at the same angle the vertical distance (X) of the elevator discharge point above the point to which the material is to be piled, is equal to (Y) the horizontal distance from the center of the pile to the elevator discharge point.

Example: Find the centers of an elevator that will completely fill with coal a bin 10 ft. in diameter and 25 ft. high. To completely fill the bin it will be necessary to spout the coal to the center of the bin and the end of the spout must be at least as high above the bin as the coal will pile on itself, which in this case is equal to the altitude of a cone whose base is 10 ft. and the slope 35 degrees, this being the angle of repose of coal. Then the **LIFT** is equal to height of the bin, assuming the top of the boot to be flush with the ground, plus half the diameter of the bin plus the altitude of the cone, or 25′-0″+5′-0″+3′-6″=33′-6″. With the **LIFT** determined the **CENTERS** may be found by adding the values of A and B, Fig. 1, to the **LIFT.**

For finding the **CENTERS** of an Inclined Elevator it is preferable to make a sketch of the local conditions which the elevator has to meet. To do this, roughly layout to any scale the horizontal and vertical dimensions R and P as indicated in Fig. 2. The Centers will be the diagonal distance, connecting these two dimensions. With this rough layout completed, the exact positions of the loading hopper and discharge chute may be readily obtained by filling in the other dimensions given on the line drawing of the elevator itself, see pages 384 to 387 inclusive.

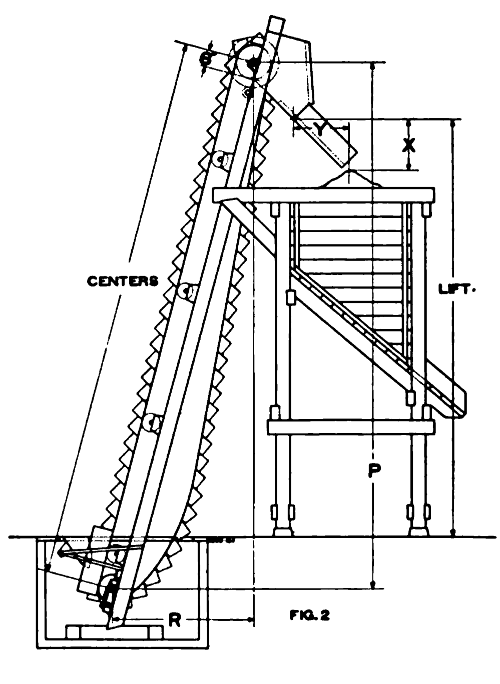


FIG. 2

Bucket Elevators

Standard Steel Casings

JEFFREY Steel Casings are built in easily handled sections and by men whose long shop experience in this class of work is an assurance of that clean and clear cut workmanship which pleases. The gauges of steel, size of corner angles and spacing of rivets are such as have been dictated by engineering years of experience as the most economically fitted to the sizes of casings and the nature of their service.

Casings are self-supporting, carrying the head and countershafts, but should be guyed or tied to buildings for stiffness. They may be made practically dust tight at a small additional cost. All casings have the upper part of the head made in two pieces, bolted together, and are provided with inspection doors in the foot section. The discharge spouts of the Ashes Elevators have renewable lining plates of heavy gauge steel.

Steel Casings are made up in Standard Length Sections as given in the following table. These sections are ordinarily kept in stock for immediate delivery whereas sections of any other length will have to be made up on order thereby entailing some delay. The table below gives the various Elevator Centers obtainable with Standard Sections, for the different elevators. Whenever possible increase or decrease the elevator centers sufficiently to permit of ordering an elevator of Standard Centers.

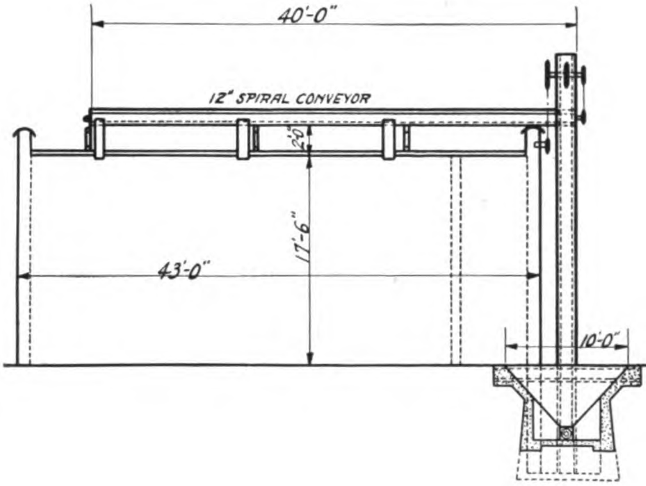
Example:—To find centers of Elevator No. 119 having a lift of 35 feet, refer to line cut of Elevator No. 119 page 377 and add to the **Lift** of 35 feet the distance from discharge spout to center of headshaft also the distance from top of boot to center of footshaft.

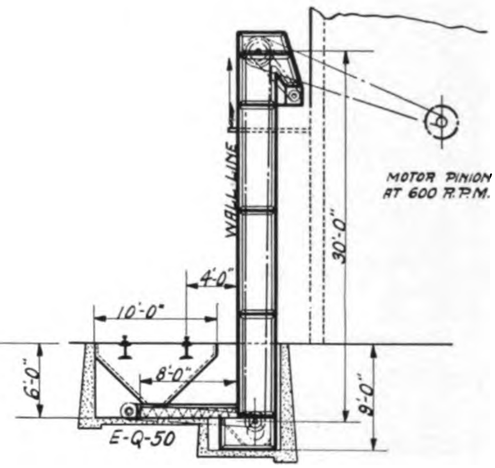
Thus, $35'\text{-}0'' + 37\tfrac{7}{8}'' + 4\tfrac{13}{16} = 38'\text{-}6\tfrac{11}{16}''$ the required centers. But referring to table below it will be noted that the nearest Standard Centers for Elevator No. 119 is 39 feet, therefore by adding $5\tfrac{5}{16}''$ to the centers obtained, a standard casing made up of carried in stock lengths may be ordered.

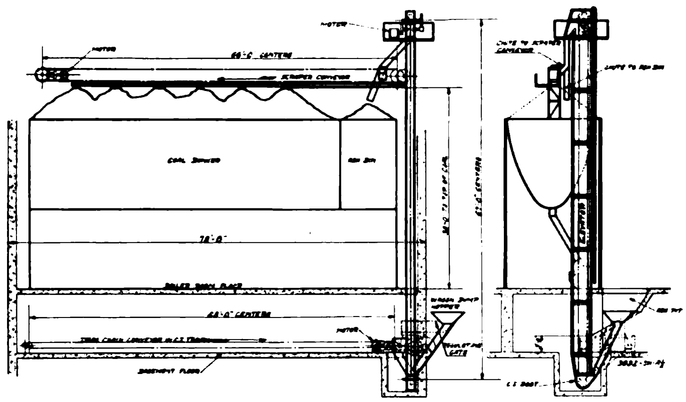
Standard Centers of Elevators using Standard Sections of Casings

Elevator No.	Casing Sections	STANDARD CENTERS									
103	4'-0" 8'-0"	11'-0"	15'-0"	19'-0"	23'-0"	27'-0"	31'-0"	35'-0"			39'-0"
108	4'-0" 8'-0"	11'-0"	15'-0"	19'-0"	23'-0"	27'-0"	31'-0"	35'-0"			39'-0"
111	5'-0" 10'-0"	14'-0"	19'-0"	24'-0"	29'-0"	34'-0"					39'-0"
115	5'-0" 10'-0"	14'-0"	19'-0"	24'-0"	29'-0"	34'-0"					39'-0"
119	5'-0" 10'-0"	14'-0"	19'-0"	24'-0"	29'-0"	34'-0"					39'-0"
122	5'-0" 10'-0"	14'-0"	19'-0"	24'-0"	29'-0"	34'-0"					39'-0"
132	4'-0" 8'-0"	43'-0"	47'-0"	51'-0"	55'-0"	59'-0"	63'-0"	67'-0"	71'-0"	75'-0"	79'-0"
137	4'-0" 8'-0"	43'-0"	47'-0"	51'-0"	55'-0"	59'-0"	63'-0"	67'-0"	71'-0"	75'-0"	79'-0"
140	5'-0" 10'-0"	44'-0"	49'-0"	54'-0"	59'-0"	64'-0"	69'-0"	74'-0"			79'-0"
144	5'-0" 10'-0"	44'-0"	49'-0"	54'-0"	59'-0"	64'-0"	69'-0"	74'-0"			79'-0"
149	5'-0" 10'-0"	44'-0"	49'-0"	54'-0"	59'-0"	64'-0"	69'-0"	74'-0"			79'-0"
152	5'-0" 10'-0"	44'-0"	49'-0"	54'-0"	59'-0"	64'-0"	69'-0"	74'-0"			79'-0"
166	5'-0" 10'-0"	14'-0"	19'-0"	24'-0"	29'-0"	34'-0"					39'-0"
167	5'-0" 10'-0"	14'-0"	19'-0"	24'-0"	29'-0"	34'-0"					39'-0"
169	5'-0" 10'-0"	14'-0"	19'-0"	24'-0"	29'-0"	34'-0"					39'-0"
170	5'-0" 10'-0"	14'-0"	19'-0"	24'-0"	29'-0"	34'-0"					39'-0"
179	5'-0" 10'-0"	44'-0"	49'-0"	54'-0"	59'-0"	64'-0"	69'-0"	74'-0"			79'-0"
180	5'-0" 10'-0"	44'-0"	49'-0"	54'-0"	59'-0"	64'-0"	69'-0"	74'-0"			79'-0"
182	5'-0" 10'-0"	44'-0"	49'-0"	54'-0"	59'-0"	64'-0"	69'-0"	74'-0"			79'-0"
183	5'-0" 10'-0"	44'-0"	49'-0"	54'-0"	59'-0"	64'-0"	69'-0"	74'-0"			79'-0"

Typical Installations of Jeffrey Standard Bucket Elevators which have proven both efficient and inexpensive







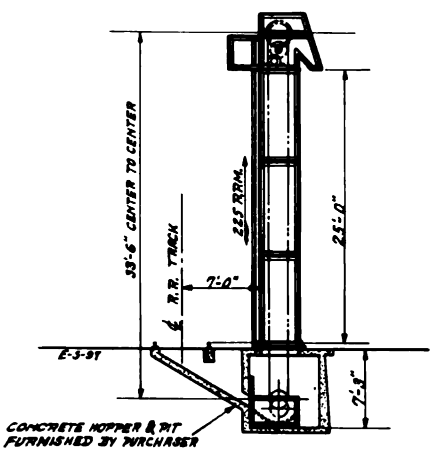
ABOVE is shown an equipment installed for handling slack coal, employing a screw conveyor for feeding the coal from track hopper to elevator, also for distributing same over the bunkers.

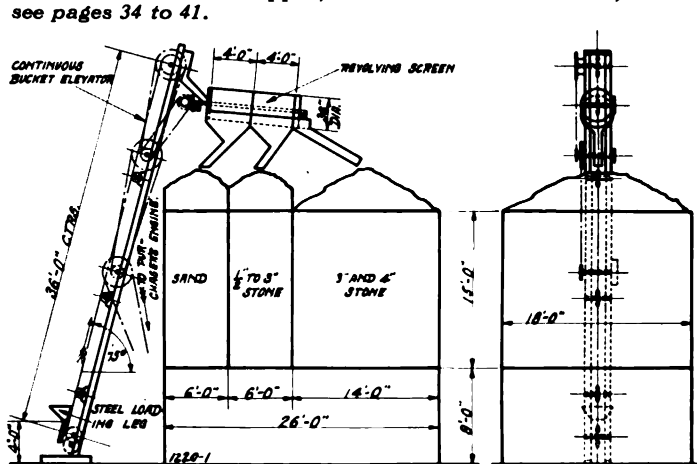
At the left, the Bucket Elevator receives coal from wagon dump hopper and discharges it into a Scraper Conveyor which delivers the coal to the bunkers. Ashes are received from a drag chain conveyor under the boilers and are spouted from the same elevator to ash bin.

The lower left hand diagram shows equipment for handling small anthracite coal. The Track Hopper is of concrete and the flow of coal into the elevator boot is controlled by slide valve attached to the boot and operated by hand.

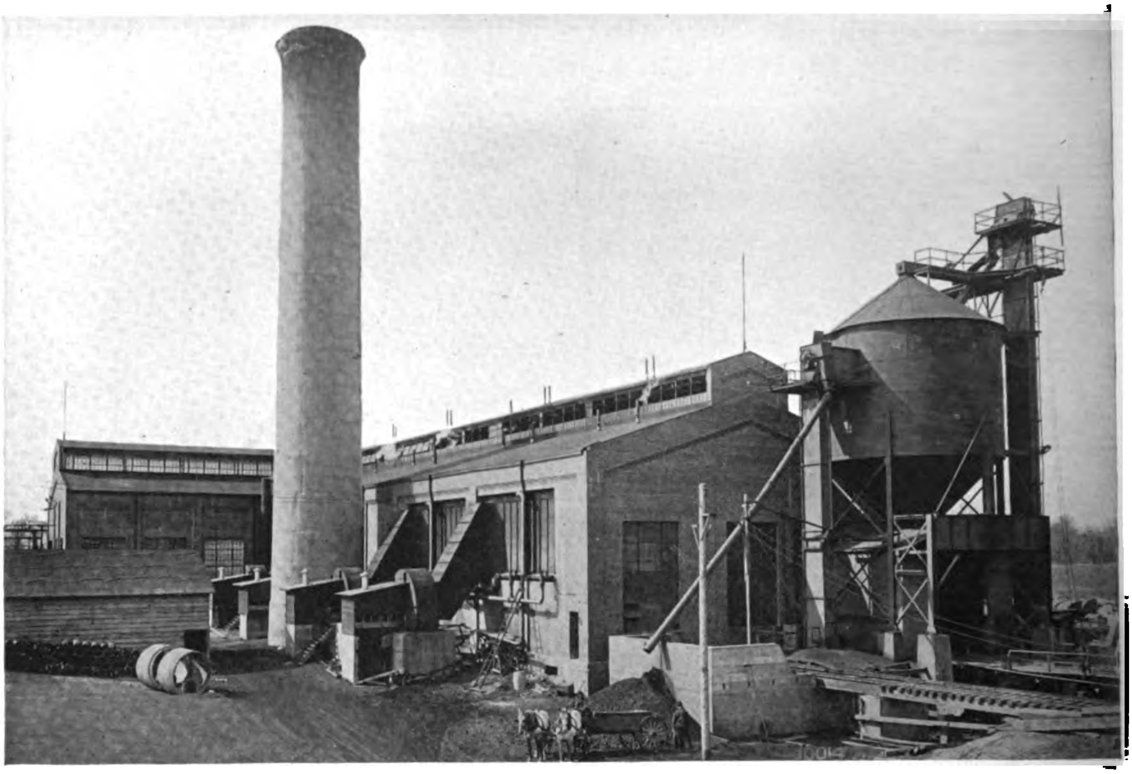
At the right below is shown an arrangement which is typical of many installations we have made for small sand and gravel handling plants.

For general arrangement of Bucket Elevators with Track Hopper, Plate Feeder and Crusher, see pages 34 to 41.

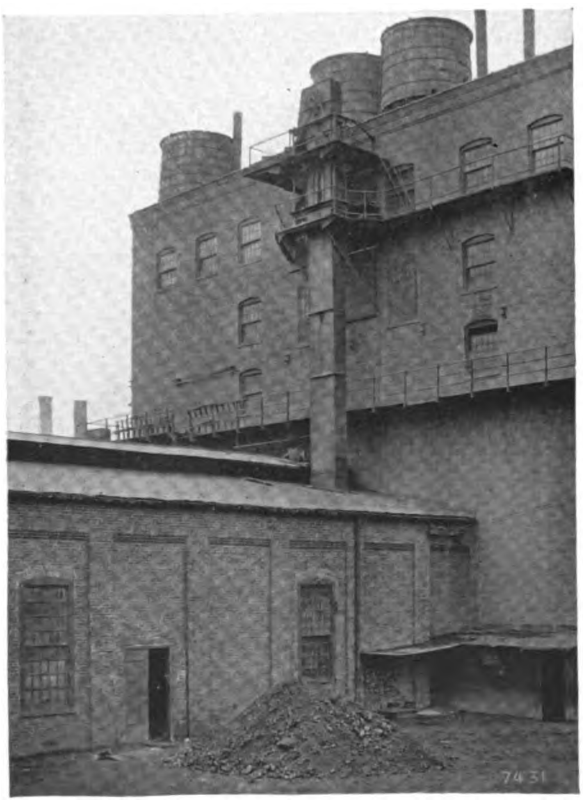




Bucket Elevators



Two Jeffrey Elevators serving a large Power House. The taller Elevator handles coal to storage bin, while the smaller one carries ashes from the boilers.



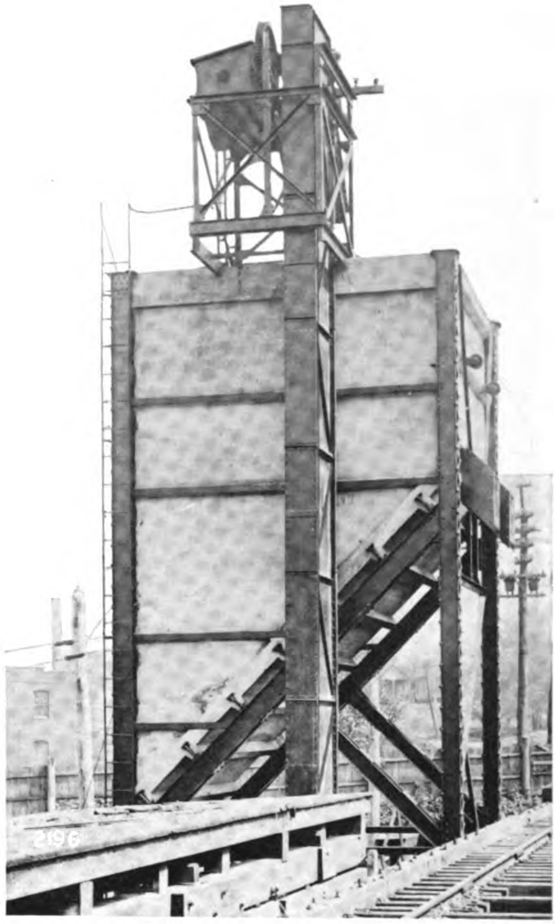
BUCKET Elevators with buckets spaced at intervals are best fitted to the handling of nearly uniform capacities of approximately all sizes of loose materials. They also have a special adaptation to fine materials of a semi-abrasive nature and to places where ordinary capacities are required.

For non-abrasive materials or semi-abrasive materials the buckets are usually of steel, while for gritty materials heavy malleable iron buckets serve to resist wear and give increased life to the elevator.

A Jeffrey Bucket Elevator installed in a chemical plant for the handling of Fullers Earth to storage bins.

Bucket Elevators

At the plant of a large Gas and Electric Company where a Jeffrey Standard Bucket Elevator is used to facilitate their coke storage. The coke is discharged into the elevator from a drag conveyor, and thence into one of the two bins.



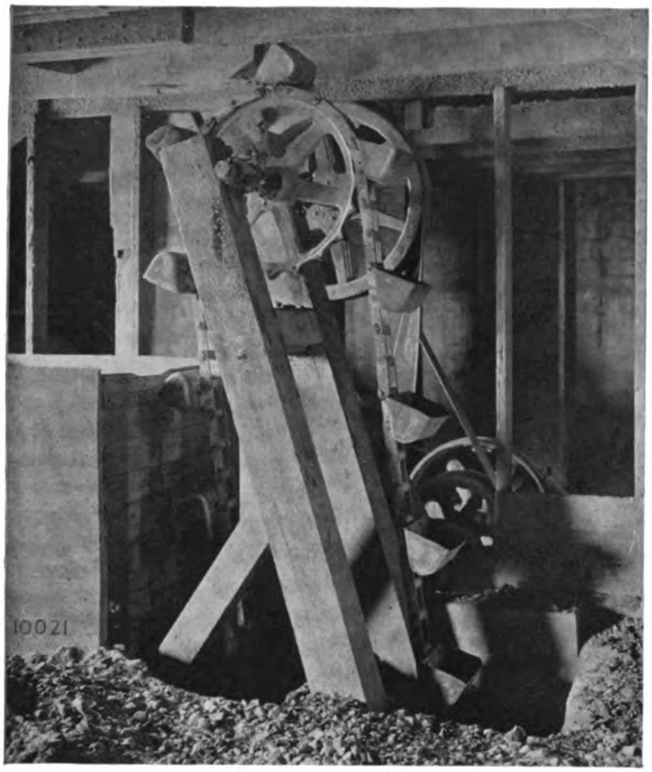
Jeffrey Bucket Elevator for handling ashes to storage bin. Ashes can be discharged from right side of bin into railroad cars, and into contractors' wagons or trucks from chutes located on the left side.

JEFFREY Bucket Elevators with steel casings are ideal for the handling of fine dusty materials and because of the small space required by them, they can readily be installed in old as well as new buildings with very little alteration. In many cases, both the Elevator and Storage Bin can be supported by the walls of the building.

In the illustration at the left is shown another Jeffrey Bucket Elevator handling ashes to storage bin.

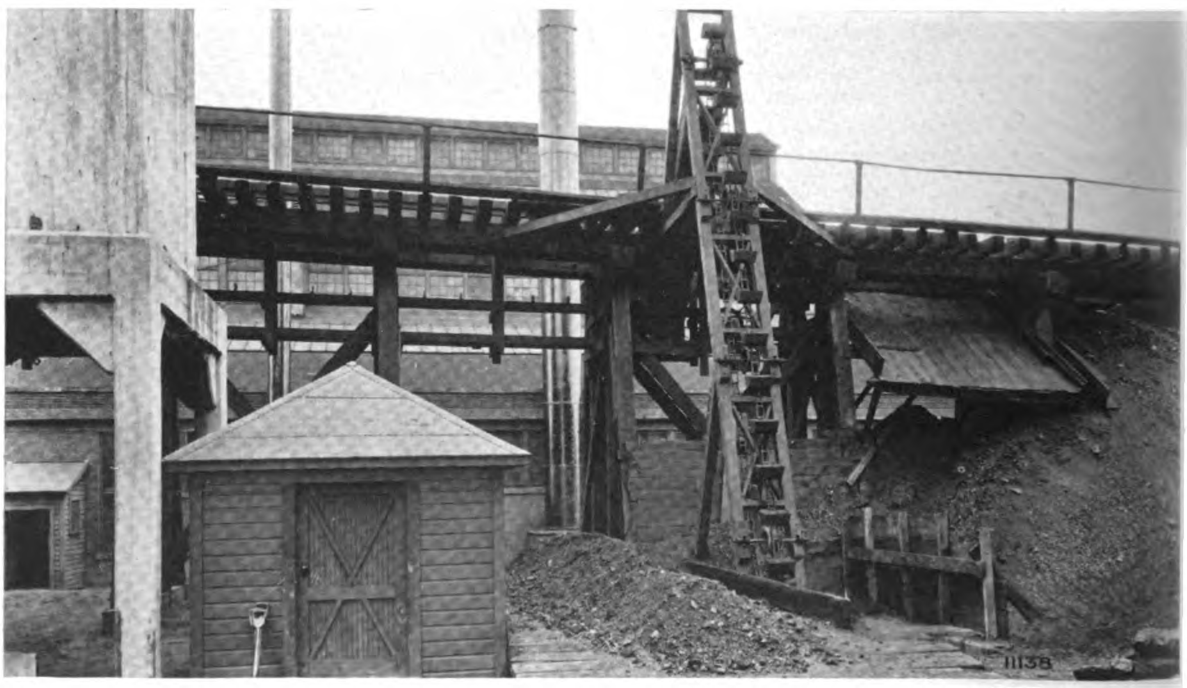
Bucket Elevators

Centrifugal Discharge Elevators



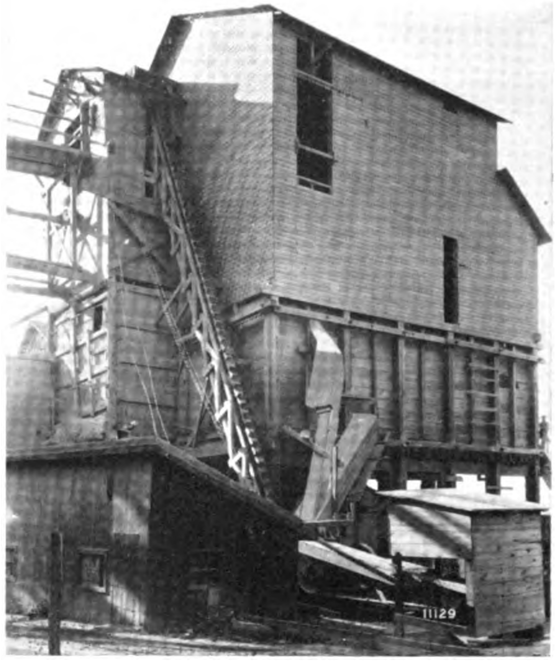
IT will be noted that the Elevators shown on this and the opposite page are all inclined and the loaded strand is carried upon supporting Idlers. While the views shown are typical of most Continuous Bucket Elevator installations, this type of Elevator can also be installed vertical, in which case no idlers are required.

The left hand view shows a Jeffrey Inclined Bucket Elevator operating in a Fertilizer Plant, handling hard acid phosphate.



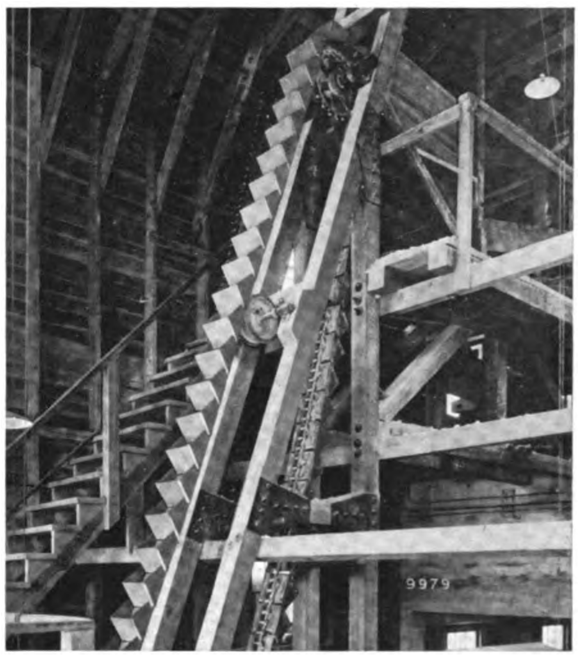
In this installation, coal is handled from outside storage by a Jeffrey Bucket Elevator which discharges coal into a Scraper Conveyor located under railroad tracks.

A Continuous Bucket Elevator handling coal from crusher to hopper over railroad track.



In the above installation, a bucket elevator is used to carry limestone from pulverizer to storage bins.

An inexpensive outfit consisting of a Jeffrey Elevator and Screen for handling sand and gravel to bins.

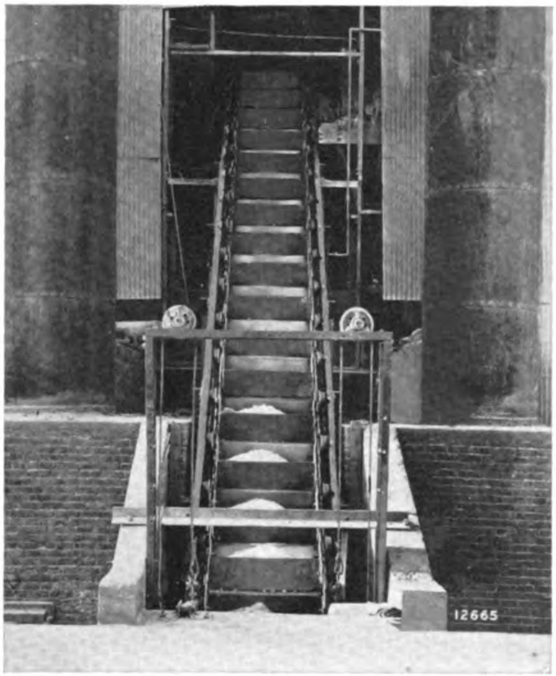


Above is shown a Jeffrey Continuous Bucket Elevator for handling Barytes in a Fertilizer Plant.

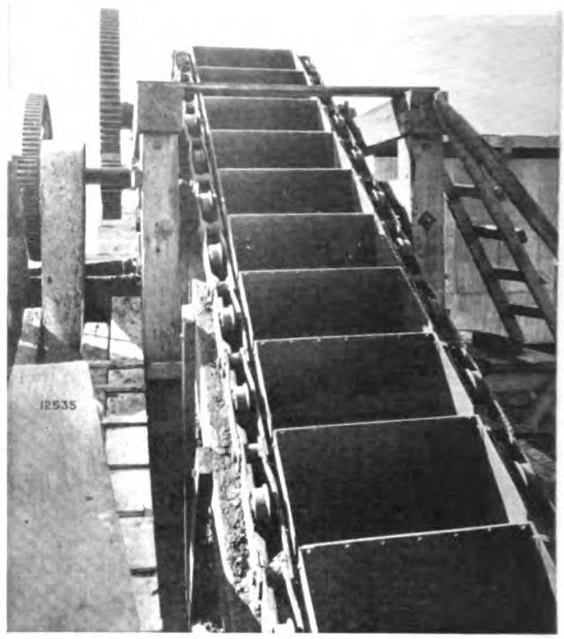
A loading leg, made of heavy steel plate and so designed as to prevent materials from wedging between the buckets and sides of the loading leg, is furnished with Jeffrey Continuous Bucket Elevators.

Bucket Elevators

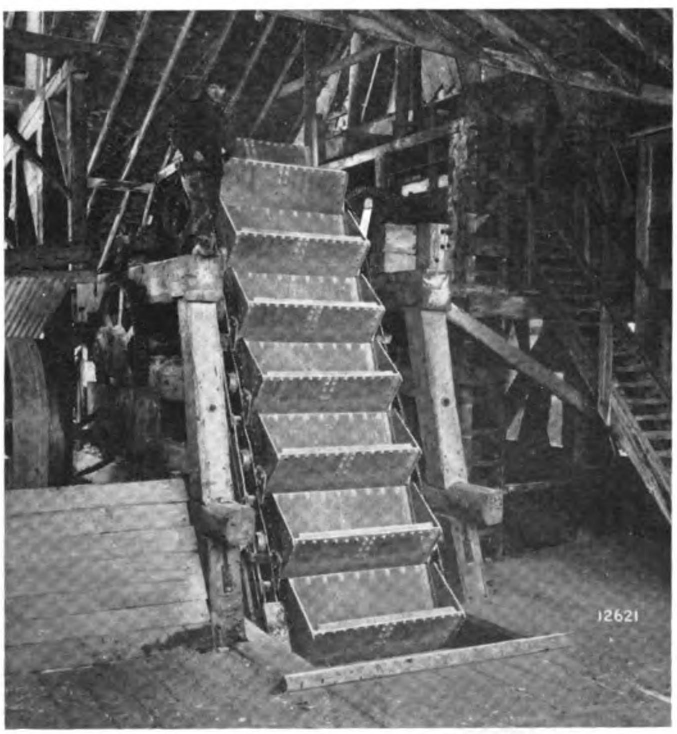
Heavy Duty Elevators



A Double Strand Bucket Elevator used in a large Portland Cement Company



A Jeffrey Elevator for heavy duty in the Stone Quarry



Above is shown a large Stone Elevator equipped with 60" x 18" x 30" Buckets and No. 1076 Steel Knuckle Chain

CONTINUOUS Bucket Elevators have been made to handle 700 tons of stone per hour. Such large capacities require large buckets hung between two strands of chain, while capacities less than 100 tons usually require but a single strand of chain.

These Jeffrey heavy duty Elevators are designed for the hard service encountered in the handling of such materials as Ores, Stone, Cement Clinker, etc.

Additional information on these Elevators will be given upon request.

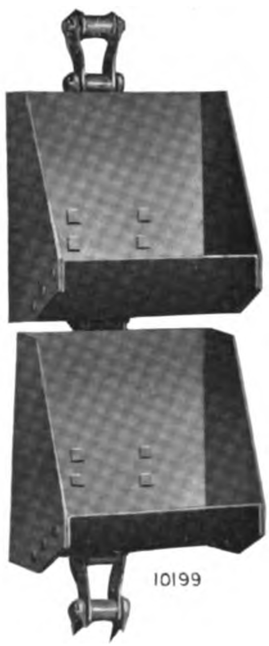
Types of Chains and Buckets used on Jeffrey Standard Elevators

Elevator Buckets mounted on Jeffrey Detachable Chain

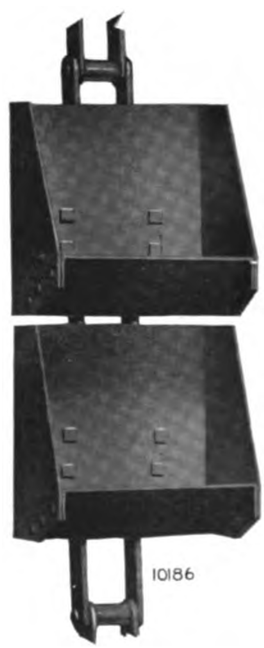
Elevator Buckets mounted on Jeffrey Reliance Chain

Elevator Buckets mounted on Jeffrey Hercules Chain

Elevator Buckets mounted on Jeffrey Peerless Chain



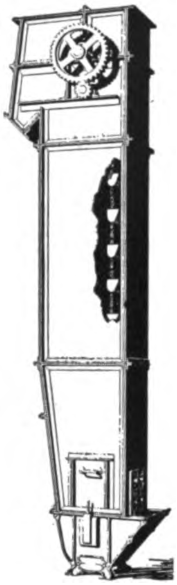
Steel Continuous Buckets mounted on Jeffrey Reliance Chain



Steel Continuous Buckets mounted on Jeffrey Hercules Chain

For semi or non-abrasive materials, steel buckets are used and malleable buckets for gritty materials.

Bucket Elevators



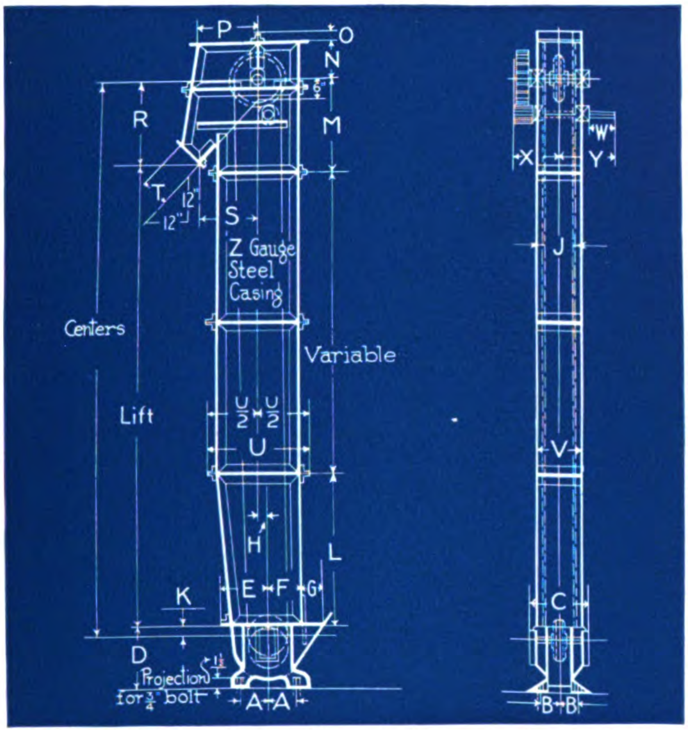
With Casings for Coal and other Similar Materials

At the right is shown a typical installation of Jeffrey Bucket Elevator with Steel Casing, handling coal.

Elevator No.	0 to 40 ft. Centers						41 to 80 ft. Centers					
	103	108	111	115	119	122	132	137	140	144	149	152
Maximum Size Piece in Inches Not to exceed 10% of whole	2½	3	3½	4	4	4½	2½	3	3½	4	4	4½
Capacity—In Tons per Hour Buckets 80% full	6.5	12.2	14	23.2	25	36	6.5	12.2	14	23.2	25	36
Size of Buckets												
Length—Inches	6	8	10	12	14	16	6	8	10	12	14	16
Projection—Inches	4	5	6	7	7	8	4	5	6	7	7	8
Gauge of Steel or	16	14		12	12	10	16	14		12	12	10
Style of Malleable Bucket			A						A			
Spacing—Inches	13	15	24	21	24	24	13	15	24	21	24	24
Chain												
Number and Style	88J	82R	82R	82R	110H	110H	88J	82R	82R	82R	110H	110H
Pitch—Inches	2.61	3.08	3.08	3.08	6	6	2.61	3.08	3.08	3.08	6	6
Attachment	K-1	K-2	K-2	K-2	K-2	K-2	K-1	K-2	K-2	K-2	K-2	K-2
Speed Feet per Minute	192	200	225	200	200	200	192	200	225	200	200	200
Working Strength—Lbs.	815	3000	3000	3000	3900	3900	815	3000	3000	3000	3900	3900
***Horsepower At Countershaft**	.55	1.3	1.3	2.2	2.5	3.3	1.1	2.5	2.6	4.2	4.8	6.6
Head Shaft												
Diameter—Inches	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$	$3\frac{7}{16}$
Rev. per Minute	40	40	37.5	33.3	33.3	33.3	40	40	37.5	33.3	33.3	33.3
Diameter Sprocket—Inches	18½	19¾	23½	23½	23½	23½	18½	19¾	23½	23½	23½	23½
Gear Diameter—Inches	23.89	23.89	29.83	29.83	29.83	29.83	23.89	29.83	29.83	29.83	32.00	32.00
Gear Pitch—Inches	1	1	1¼	1¼	1¼	1¼	1	1¼	1¼	1¼	1½	1½
Gear Face—Inches	2½	2½	3	3	3	3	2½	3	3	3	4	4
Countershaft												
Diameter—Inches	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{11}{16}$	$2\frac{11}{16}$
Rev. per Minute	188	188	188	167	167	167	188	200	188	167	149	149
Pinion Diameter—Inches	5.12	5.12	6.01	6.01	6.01	6.01	5.12	6.01	6.01	6.01	7.22	7.22
Pinion Face—Inches	2¾	2¾	3¼	3¼	3¼	3¼	2¾	3¼	3¼	3¼	4½	4½
Boot												
Number	111	112	113	113	113	114	111	112	113	113	113	114
Diameter Shaft—Inches	$1\frac{3}{16}$	$1\frac{7}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$1\frac{3}{16}$	$1\frac{7}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$
Diameter Sprocket—Inches	11	16¾	17¾	17¾	17¾	21½	11	16¾	17¾	17¾	17¾	21½
Approx. Shipping Weight—Lbs.												
Head and Boot Complete	823	1236	1778	2050	2232	2641	855	1392	1869	2206	2556	2948
Per Foot of intermediate Section Complete with Casing	43	58	70	89	97	106	48	62	76	95	104	112

*** Horsepower listed for Maximum Centers.**

Bucket Elevators



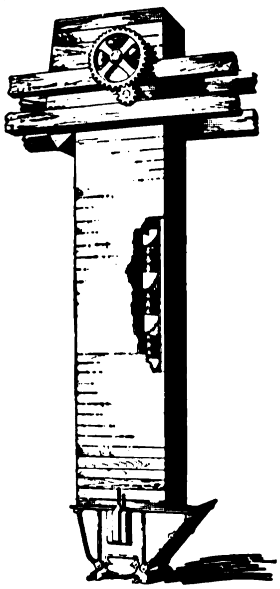
With Casing for Coal and other Similar Materials

Always give Elevator Number, Feet Centers, and state whether Gears are to be assembled as shown in drawing or on opposite side of casing.

Elevator No.	0 to 40 ft. Centers						41 to 80 ft. Centers					
	103	**108**	**111**	**115**	**119**	**122**	**132**	**137**	**140**	**144**	**149**	**152**
A	6 3/4	8 1/4	10	10	10	12	6 3/4	8 1/4	10	10	10	12
B	6 1/2	7 1/2	8 3/4	9 3/4	10 3/4	12	7	8	9 1/4	10 1/4	11 1/4	12 1/2
C	18 3/4	21 3/4	24 1/4	26 1/4	28 1/4	30 3/4	19 3/4	22 3/4	25 1/4	27 1/4	29 1/4	31 1/4
D	22 1/4	26 7/8	32 9/16	32 9/16	32 9/16	38 3/4	22 1/4	26 7/8	32 9/16	32 9/16	32 9/16	38 3/4
E	15	19	22	22	22	25	15	19	22	22	22	25
F	12	16	19	19	19	22	12	16	19	19	19	22
G	9	10	12	12	12	15	9	10	12	12	12	15
H	4	2	2	3	3	1	5	3	3	5	5	2
J	9	11	13	15	17	19	10	12	14	16	18	20
K	3 7/8	3 5/8	4 13/16	4 13/16	4 13/16	5 3/4	3 7/8	3 5/8	4 13/16	4 13/16	4 13/16	5 3/4
L	8′-0″	8′-0″	10′-0″	10′-0″	10′-0″	10′-0″	8′-0″	8′-0″	10′-0″	10′-0″	10′-0″	10′-0″
M	32 1/8	32 3/8	43 3/16	43 3/16	43 3/16	42 1/4	32 1/8	32 3/8	43 3/16	43 3/16	43 3/16	42 1/4
N	16	18	21	22	22	23	17	19	22	24	24	24
O	1 7/8	1 7/8	1 7/8	1 7/8	1 7/8	1 7/8	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8
P	24 3/4	26	30 3/4	31 1/4	31 1/2	31 1/4	25 3/4	27 1/4	32 3/4	32 3/4	32 3/4	32 3/4
R	27 5/8	31	35 1/2	37 7/8	37 7/8	40 5/16	28 5/8	32 1/16	36 1/2	39 7/8	39 7/8	41 5/16
S	21 5/8	25	29 1/2	31 7/8	31 7/8	34 5/16	22 5/8	26 1/16	30 1/2	33 7/8	33 7/8	35 5/16
T	6	7 1/2	9	10 1/2	10 1/2	12	6	7 1/2	9	10 1/2	10 1/2	12
U	35 5/8	39 5/8	45 3/4	47 3/4	47 3/4	49 3/4	38 1/8	42 1/8	48 1/4	52 1/4	52 1/4	52 1/4
V	12 5/8	14 5/8	16 3/4	18 3/4	20 3/4	22 3/4	14 1/8	16 1/8	18 1/4	20 1/4	22 1/4	24 1/4
W	6	6	6	6	6	6	6	6	6	6	7	7
X	13 5/8	14 5/8	17 7/8	18 7/8	21 3/8	22 3/8	14 1/8	17 3/8	19 7/8	20 7/8	23 3/8	24 3/8
Y	14 5/8	15 5/8	18 1/8	19 1/8	21 3/8	22 3/8	15 1/8	17 5/8	19 7/8	20 7/8	23 3/4	24 3/4
Z	16	16	14	12	12	12	16	16	14	12	12	12

Dimensions given above are in inches except as otherwise noted.

Bucket Elevators



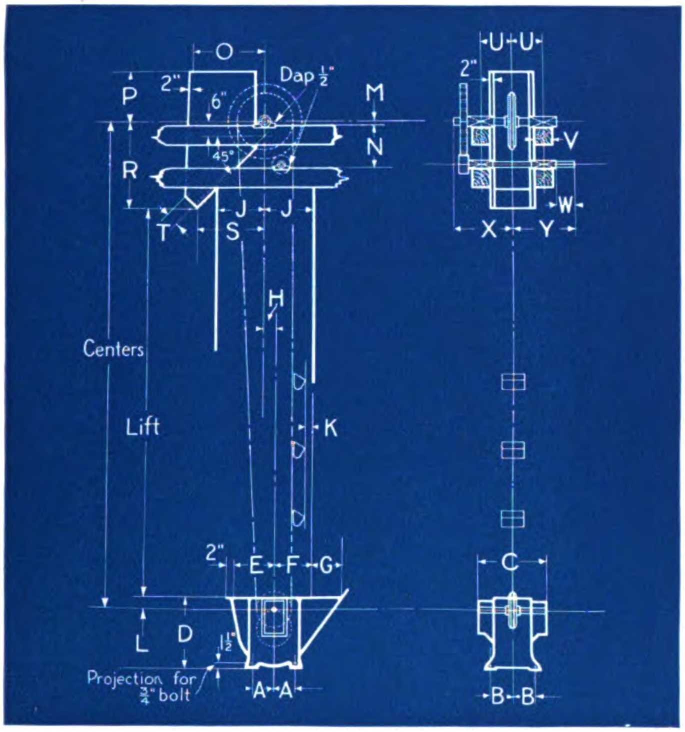
Without Casing for Coal and other Similar Materials

At the right is shown a typical installation of Jeffrey Bucket Elevator with Wood Casing, handling coal.

Elevator No.	0 to 40 ft. Centers						41 to 80 ft. Centers					
	1103	1108	1111	1115	1119	1122	1132	1137	1140	1144	1149	1152
Maximum Size Piece in Inches												
Not to exceed 10% of whole	2½	3	3½	4	4	4½	2½	3	3½	4	4	4½
Capacity—In Tons per Hour												
Buckets 80% full	6.5	12.2	14	23.2	25	36	6.5	12.2	14	23.2	25	36
Size of Bucket												
Length—Inches	6	8	10	12	14	16	6	8	10	12	14	16
Projection—Inches	4	5	6	7	7	8	4	5	6	7	7	8
Gauge of Steel or	16	14	....	12	12	10	16	14	....	12	12	10
Style of Malleable Bucket	....	....	A	....	....	....	....	....	A	....	....	....
Spacing—Inches	13	15	24	21	24	24	13	15	24	21	24	24
Chain												
Number and Style	88J	82R	82R	82R	110H	110H	88J	82R	82R	82R	110H	110H
Pitch—Inches	2.61	3.08	3.08	3.08	6	6	2.61	3.08	3.08	3.08	6	6
Attachment	K-1	K-2	K-2	K-2	K-2	K-2	K-1	K-2	K-2	K-2	K-2	K-2
Speed Feet per Minute	192	200	225	200	200	200	192	200	225	200	200	200
Working Strength—Lbs.	815	3000	3000	3000	3900	3900	815	3000	3000	3000	3900	3900
***Horsepower At Countershaft**	.55	1.3	1.3	2.2	2.5	3.3	1.1	2.5	2.6	4.2	4.8	6.6
Head Shaft												
Diameter—Inches	1 11/16	1 11/16	2 7/16	2 7/16	2 11/16	2 11/16	1 11/16	2 7/16	2 11/16	2 11/16	3 7/16	3 7/16
Rev. per Minute	40	40	37.5	33.3	33.3	33.3	40	40	37.5	33.3	33.3	33.3
Diameter Sprocket—Inches	18½	19¾	23½	23½	23½	23½	18½	19¾	23½	23½	23½	23½
Gear Diameter—Inches	23.89	23.89	29.83	29.83	29.83	29.83	23.89	29.83	29.83	29.83	32.00	32.00
Gear Pitch—Inches	1	1	1¼	1¼	1¼	1¼	1	1¼	1¼	1¼	1½	1½
Gear Face—Inches	2½	2½	3	3	3	3	2½	3	3	3	4	4
Countershaft												
Diameter—Inches	1 7/16	1 7/16	1 11/16	1 11/16	2 7/16	2 7/16	1 7/16	1 11/16	2 7/16	2 7/16	2 11/16	2 11/16
Rev. per Minute	188	188	188	167	167	167	188	200	188	167	149	149
Pinion Diameter—Inches	5.12	5.12	6.01	6.01	6.01	6.01	5.12	6.01	6.01	6.01	7.22	7.22
Pinion Face—Inches	2¾	2¾	3¼	3¼	3¼	3¼	2¾	3¼	3¼	3¼	4½	4½
Boot												
Number	111	112	113	113	113	114	111	112	113	113	113	114
Diameter Shaft—Inches	1 3/16	1 7/16	1 11/16	1 11/16	1 11/16	2 7/16	1 3/16	1 7/16	1 11/16	1 11/16	1 11/16	2 7/16
Diameter Sprocket—Inches	11	16¾	17¾	17¾	17¾	21½	11	16¾	17¾	17¾	17¾	21½
Approx. Shipping Weight—Lbs.												
Head and Boot Complete	470	680	1085	1170	1300	1650	485	810	1159	1275	1575	1870
Per Foot of intermediate Section	6	17	19.5	22	29	33	6	17	19.5	22	29	34

*Horsepower listed for Maximum Centers.

Bucket Elevators



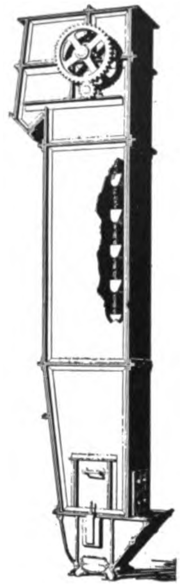
Without Casing for Coal and other Similar Materials

Always give Elevator Number and Feet Centers when ordering. Wood Casing furnished by purchaser.

Elevator No.	0 to 40 ft. Centers						41 to 80 ft. Centers					
	1103	1108	1111	1115	1119	1122	1132	1137	1140	1144	1149	1152
A	6¾	8¼	10	10	10	12	6¾	8¼	10	10	10	12
B	6½	7½	8¾	9¾	10¾	12	7	8	9¼	10¼	11¼	12½
C	18¾	21¾	24¼	26¼	28¼	30¾	19¾	22¾	25¼	27¼	29¼	31¼
D	22¼	26⅞	32 9/16	32 9/16	32 9/16	38¾	22¼	26⅞	32 9/16	32 9/16	32 9/16	38¾
E	13	17	20	20	20	23	13	17	20	20	20	23
F	12	16	19	19	19	22	12	16	19	19	19	22
G	9	10	12	12	12	15	9	10	12	12	12	15
H	4	2	2	3	3	1	5	3	3	5	5	2
J	16	18	21	22	22	23	17	19	22	24	24	24
K	2	2	2	2	2	2	3	3	3	3	3	3
L	3⅞	3⅝	4 13/16	4 13/16	4 13/16	5¾	3⅞	3⅝	4 13/16	4 13/16	4 13/16	5¾
M	1 3/16	1 3/16	1⅝	1⅝	2	2	1 3/16	1⅝	2	2	2⅝	2⅝
N	13¾	13¾	16⅞	16⅞	17	17	13¾	16⅞	17	17	18½	18½
O	24¾	26	30¾	31¼	31½	31¼	25¾	27¼	32¾	32¾	32¾	32¾
P	16	18	21	22	22	23	17	19	22	24	24	24
R	27⅝	31	35½	37⅞	37⅞	40 5/16	28⅝	32 1/16	36½	39⅞	39⅞	41 5/16
S	21⅝	25	29½	31⅞	31⅞	34 5/16	22⅝	26 1/16	30½	33⅞	33⅞	35 5/16
T	6	7½	9	10½	10½	12	6	7½	9	10½	10½	12
U	10	11	12	13	14	15	10	11	12	13	14	15
V	6	6	6	6	6	6	6	6	6	6	8	8
W	6	6	6	6	6	6	6	6	6	6	7	7
X	17¼	18¼	20¾	21¾	23¾	24¾	17¼	19¾	21¾	22¾	24¾	25¾
Y	18¼	19¼	21	22	23¾	24¾	18¼	20	21¾	22¾	25⅛	26⅛

Dimensions given above are in inches.

Bucket Elevators



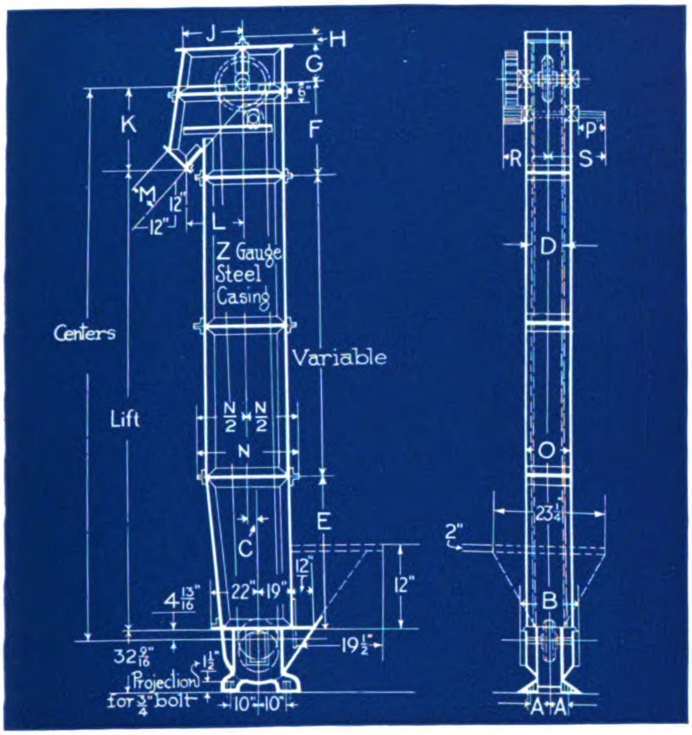
With Casing for Ashes, Coke and other Similar Materials

At the right is shown a typical installation of Jeffrey Bucket Elevator with Steel Casing, handling Ashes.

Elevator No.	0 to 40 ft. Centers				41 to 80 ft. Centers			
	166	167	169	170	179	180	182	183
Maximum Size Piece in Inches Not to exceed 10% of whole	4	4	4	4	4	4	4	4
Capacity—In Tons per Hour Buckets 80% full — Ashes	17	17	21	21	17	17	21	21
Coke	13	13	16	16	13	13	16	16
Size of Bucket								
Length—Inches	12	12	14	14	12	12	14	14
Projection—Inches	7	7	7	7	7	7	7	7
Style of Malleable Bucket	A	AA	A	AA	A	AA	A	AA
Spacing—Inches	24	24	24	24	24	24	24	24
Chain								
Number and Style	110H	825P	110H	825P	111H	844P	111H	844P
Pitch—Inches	6	4	6	4	4.78	6	4.78	6
Attachment	K-2	K-2	K-2	K-2	K-2	K-2	K-2	K-2
Speed Feet per Minute	200	200	200	200	200	200	200	200
Working Strength—Lbs.	3900	5075	3900	5075	5600	7750	5600	7750
***Horsepower At Countershaft**	2	2	2.5	2.2	3.6	3.6	4.8	4.2
Head Shaft								
Diameter—Inches	2 7/16	2 7/16	2 11/16	2 11/16	2 11/16	2 11/16	3 7/16	3 7/16
Rev. per Minute	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3
Diameter Sprocket—Inches	23½	23¼	23½	23¼	23	23½	23	23½
Gear Diameter—Inches	29.83	29.83	29.83	29.83	32.00	32.00	32.00	32.00
Gear Pitch—Inches	1¼	1¼	1¼	1¼	1½	1½	1½	1½
Gear Face—Inches	3	3	3	3	4	4	4	4
Countershaft								
Diameter—Inches	1 11/16	1 11/16	2 7/16	2 7/16	2 7/16	2 7/16	2 11/16	2 11/16
Rev. per Minute	168	168	168	168	149	149	149	149
Pinion Diameter—Inches	6.01	6.01	6.01	6.01	7.22	7.22	7.22	7.22
Pinion Face—Inches	3¼	3¼	3¼	3¼	4½	4½	4½	4½
Boot								
Number	113	113	113	113	113	113	113	113
Diameter Shaft—Inches	1 11/16	1 11/16	1 11/16	1 11/16	1 11/16	1 11/16	1 11/16	1 11/16
Diameter Sprocket—Inches	18	17¼	17¾	18	17¼	17¾	17¼	17¾
Approx. Shipping Weight—Lbs.								
Head and Boot Complete	2207	2253	2339	2427	2451	2478	2658	2672
Per Foot of intermediate Section Complete with Casing	97	101	101	103	104	107	109	110

* Horsepower listed for Maximum Centers.

Bucket Elevators



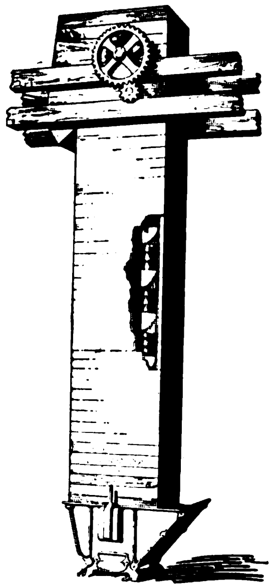
With Casing for Ashes, Coke and other Similar Materials

Always give Elevator Number, Feet Centers, and state whether Gears are to be assembled as shown in drawing or on opposite side of casing.

Elevator No.	0 to 40 ft. Centers				41 to 80 ft. Centers			
	166	167	169	170	179	180	182	183
A	9¾	9¾	10¾	10¾	10¼	10¼	11¼	11¼
B	26¼	26¼	28¼	28¼	27¼	27¼	29¼	29¼
C	3½	3½	3½	3½	4½	4½	4½	4½
D	15	15	17	17	16	16	18	18
E	10′-0″	10′-0″	10′-0″	10′-0″	10′-0″	10′-0″	10′-0″	10′-0″
F	43 3/16	43 3/16	43 3/16	43 3/16	43 3/16	43 3/16	43 3/16	43 3/16
G	22½	22½	22½	22½	23½	23½	23½	23½
H	1⅞	1⅞	1⅞	1⅞	2⅛	2⅛	2⅛	2⅛
J	32½	32½	32½	32½	32¾	32¾	32¾	32¾
K	38⅜	38⅜	38⅜	38⅜	39⅜	39⅜	39⅜	39⅜
L	32⅜	32⅜	32⅜	32⅜	33⅜	33⅜	33⅜	33⅜
M	10½	10½	10½	10½	10½	10½	10½	10½
N	48¾	48¾	48¾	48¾	51¼	51¼	51¼	51¼
O	18¾	18¾	20¾	20¾	20¼	20¼	22¼	22¼
P	6	6	6	6	6	6	7	7
R	18⅞	18⅞	21⅜	21⅜	20⅞	20⅞	23⅜	23⅜
S	19⅛	19⅛	21⅜	21⅜	20⅞	20⅞	23¾	23¾
Z	12	12	12	12	12	12	12	12

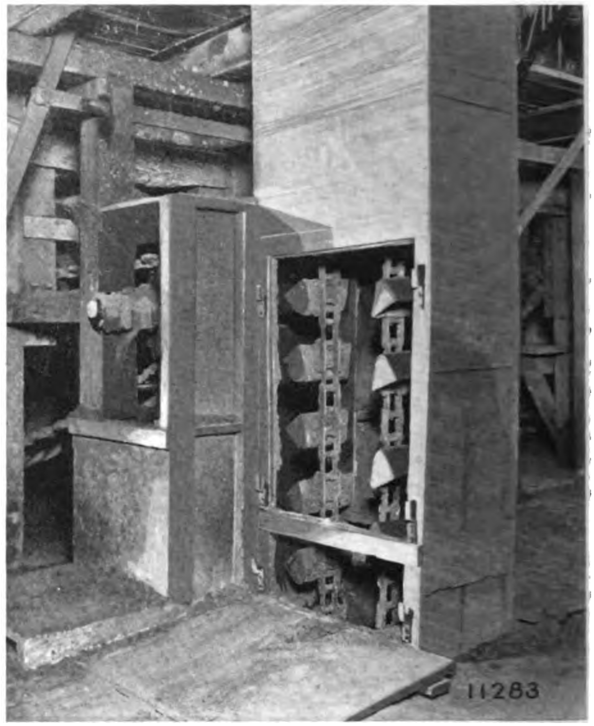
Dimensions given above are in inches except as otherwise noted.

Bucket Elevators



Vertical Elevators for Sand, Gravel and other Similar Materials

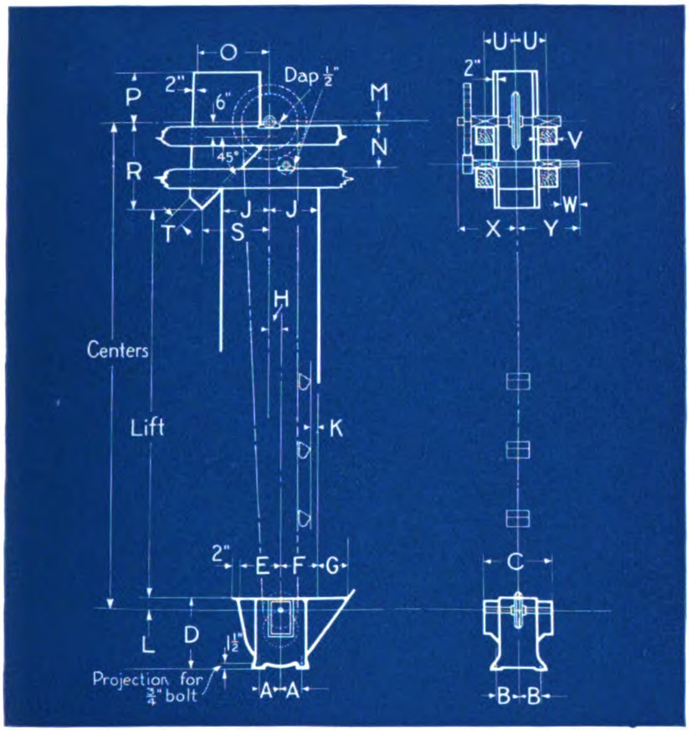
At the right is shown a typical installation of Jeffrey Bucket Elevator with Wood Casing, for handling Fertilizer.



Elevator No.	0 to 40 ft. Centers					41 to 80 ft. Centers				
	204	208	212	216	220	229	233	237	241	245
Maximum Size Piece in Inches										
Not to exceed 10% of whole	2½	3	3½	4	4	2½	3	3½	4	4
Capacity—In Tons per Hour										
Buckets 80% full	9.8	24.5	26	36	60	9.8	24.5	26	36	60
Size of Bucket										
Length—Inches	6	8	10	12	14	6	8	10	12	14
Projection—Inches	4	5	6	7	7	4	5	6	7	7
Gauge of Steel or		14	....	....	....	....	14	....	....	....
Style of Malleable Bucket	A	....	A	A	A	A	....	A	A	A
Spacing—Inches	13	15	24	24	24	13	15	24	24	24
Chain										
Number and Style	74R	82R	110H	110H	110H	74R	82R	110H	110H	111H
Pitch—Inches	2.63	3.08	6	6	6	2.63	3.08	6	6	4.78
Attachment	K-1	K-2	K-2	K-2	K-2	K-1	K-2	K-2	K-2	K-2
Speed Feet per Minute	192	200	200	200	200	192	200	200	200	200
Working Strength—Lbs.	1500	3000	3900	3900	3900	1500	3000	3900	3900	5600
***Horsepower At Countershaft**	1.0	2.1	2.4	3.2	4.8	1.8	4.1	4.7	6.2	9.4
Head Shaft										
Diameter—Inches	1 15/16	1 15/16	2 7/16	2 15/16	2 15/16	1 15/16	2 15/16	2 15/16	2 15/16	3 7/16
Rev. per Minute	40	40	33.3	33.3	33.3	40	40	33.3	33.3	33.3
Diameter Sprocket—Inches	18¼	19¾	23½	23½	23½	18¼	19¾	23½	23½	23
Gear Diameter—Inches	23.89	29.83	29.83	29.83	32.00	23.89	29.83	32.00	32.00	36.78
Gear Pitch—Inches	1	1¼	1¼	1¼	1½	1	1¼	1½	1½	1¾
Gear Face—Inches	2½	3	3	3	4	2½	3	4	4	5½
Countershaft										
Diameter—Inches	1 7/16	1 7/16	1 15/16	2 7/16	2 7/16	1 7/16	2 7/16	2 7/16	2 7/16	2 15/16
Rev. per Minute	188	200	167	167	149	188	200	149	149	134
Pinion Diameter—Inches	5.12	6.01	6.01	6.01	7.22	5.12	6.01	7.22	7.22	7.86
Pinion Face—Inches	2¾	3¼	3¼	3¼	4½	2¾	3¼	4½	4½	6
Boot										
Number	111	112	113	113	113	111	112	113	113	113
Diameter Shaft—Inches	1 3/16	1 7/16	1 15/16	1 15/16	1 15/16	1 3/16	1 7/16	1 15/16	1 15/16	1 15/16
Diameter Sprocket—Inches	10	16¾	17¾	17¾	17¾	10	16¾	17¾	17¾	17¾
Approx. Shipping Weight—Lbs.										
Head and Boot Complete	480	740	1170	1265	1435	500	865	1400	1450	1825
Per Foot of intermediate Section	10	17	24	28	31	10	17	24	28	32

* Horsepower listed for Maximum Centers.

Bucket Elevators



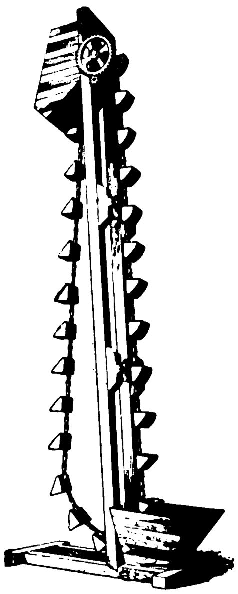
Vertical Elevators for Sand, Gravel and other Similar Materials

Always give Elevator Number, and Feet Centers when ordering. Wood Casing furnished by purchaser.

Elevator No.	0 to 40 ft. Centers					41 to 80 ft. Centers				
	204	208	212	216	220	229	233	237	241	245
A	6¾	8¼	10	10	10	6¾	8¼	10	10	10
B	6½	7½	8¾	9¾	10¾	7	8	9¼	10¼	11¼
C	18¾	21¾	24¼	26¼	28¼	19¾	22¾	25¼	27¼	29¼
D	22¼	26⅞	32 9/16	32 9/16	32 9/16	22¼	26⅞	32 9/16	32 9/16	32 9/16
E	13	17	20	20	20	13	17	20	20	20
F	12	16	19	19	19	12	16	19	19	19
G	9	10	12	12	12	9	10	12	12	12
H	4	2	2	3	3	5	3	3	4	4½
J	16	18	21	22	22	17	19	22	23	23½
K	2	2	2	2	2	3	3	3	3	3
L	3⅞	3⅝	4 13/16	4 13/16	4 13/16	3⅞	3⅝	4 13/16	4 13/16	4 13/16
M	1 3/16	1 3/16	1⅝	2	2	1 3/16	2	2	2	2⅜
N	13¾	17 1/16	16⅞	17	18⅝	13¾	17	18⅝	18⅝	21
O	24⅝	26¼	30¾	30½	30⅜	25½	27	31¾	31¼	32½
P	16	18	21	22	22	17	19	22	23	23½
R	27⅝	31 1/16	35½	37⅞	37⅞	28⅝	32 1/16	36½	38⅞	39⅜
S	21⅝	25 1/16	29½	31⅞	31⅞	22⅝	26 1/16	30½	32⅞	33⅜
T	6	7½	9	10½	10½	6	7½	9	10½	10½
U	10	11	12	13	14	10	11	12	14	15
V	6	6	6	6	6	6	6	6	8	8
W	6	6	6	6	6	6	6	6	6	7
X	17¼	18¼	20¾	22¾	23¾	17¼	20¾	21¾	23¾	25¾
Y	18¼	19¼	21	22¾	23¾	18¼	20¾	21¾	23¾	26⅛

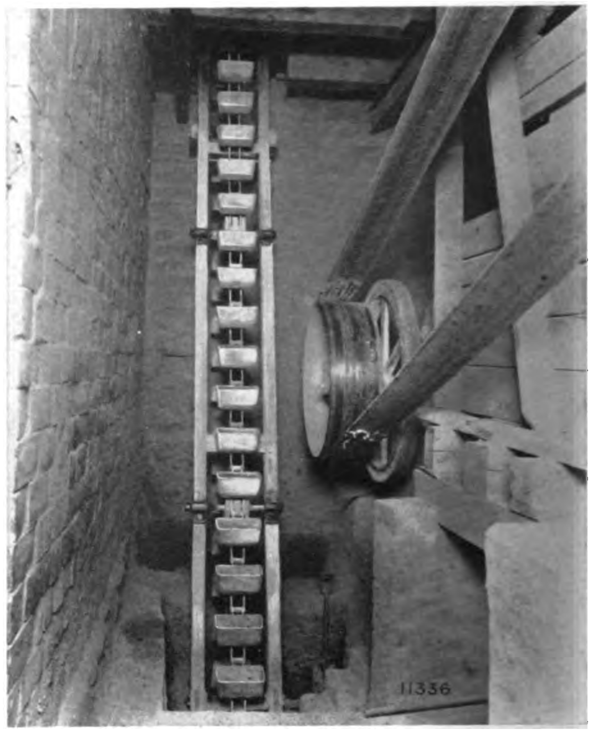
Dimensions given above are in inches.

Bucket Elevators



Inclined Elevators for Sand, Gravel and other Similar Materials

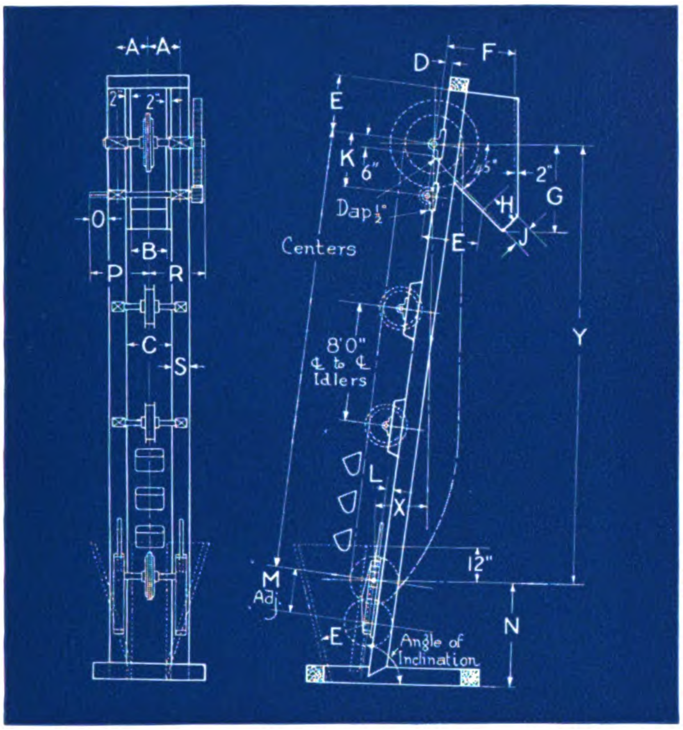
At the right is shown a typical installation of a Jeffrey Inclined Centrifugal Discharge Elevator.



Elevator No.	0 to 40 ft. Centers					41 to 80 ft. Centers				
	1204	1208	1212	1216	1220	1229	1233	1237	1241	1245
Maximum Size Piece in Inches Not to exceed 10% of whole	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	4	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	4
Capacity—In Tons per Hour Buckets 80% full	9.8	24.5	26	36	60	9.8	24.5	26	36	60
Size of Buckets										
Length—Inches	6	8	10	12	14	6	8	10	12	14
Projection—Inches	4	5	6	7	7	4	5	6	7	7
Gauge of Steel or	....	14	....	....	....	....	14	....	....	....
Style of Malleable Bucket	A	....	A	A	A	A	....	A	A	A
Spacing—Inches	13	15	24	24	24	13	15	24	24	24
Chain										
Number and Style	74R	82R	110H	110H	110H	74R	82R	110H	110H	111H
Pitch—Inches	2.63	3.08	6	6	6	2.63	3.08	6	6	4.78
Attachment	K-1	K-2	K-2	K-2	K-2	K-1	K-2	K-2	K-2	K-2
Speed Feet per Minute	192	200	200	200	200	192	200	200	200	200
Working Strength—Lbs.	1500	3000	3900	3900	3900	1500	3000	3900	3900	5600
***Horsepower At Countershaft**	1.0	2.1	2.4	3.2	4.8	1.8	4.1	4.7	6.2	9.4
Head Shaft										
Diameter—Inches	$1\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$	$1\frac{15}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$
Rev. per Minute	40	40	33.3	33.3	33.3	40	40	33.3	33.3	33.3
Diameter Sprocket—Inches	$18\frac{1}{4}$	$19\frac{3}{4}$	$23\frac{1}{2}$	$23\frac{1}{2}$	$23\frac{1}{2}$	$18\frac{1}{4}$	$19\frac{3}{4}$	$23\frac{1}{2}$	$23\frac{1}{2}$	23
Gear Diameter—Inches	23.89	29.83	29.83	29.83	32.00	23.89	29.83	32.00	32.00	36.78
Gear Pitch—Inches	1	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{2}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{3}{4}$
Gear Face—Inches	$2\frac{1}{2}$	3	3	3	4	$2\frac{1}{2}$	3	4	4	$5\frac{1}{2}$
Countershaft										
Diameter—Inches	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{15}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$1\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{7}{16}$	$2\frac{11}{16}$
Rev. per Minute	188	200	167	167	149	188	200	149	149	157
Pinion Diameter—Inches	5.12	6.01	6.01	6.01	7.22	5.12	6.01	7.22	7.22	7.86
Pinion Face—Inches	$2\frac{3}{4}$	$3\frac{1}{4}$	$3\frac{1}{4}$	$3\frac{1}{4}$	$4\frac{1}{2}$	$2\frac{3}{4}$	$3\frac{1}{4}$	$4\frac{1}{2}$	$4\frac{1}{2}$	6
Foot Shaft										
Diameter—Inches	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{15}{16}$	$1\frac{15}{16}$	$1\frac{11}{16}$
Diameter Sprocket—Inches	10	$16\frac{3}{4}$	$17\frac{3}{4}$	$17\frac{3}{4}$	$17\frac{3}{4}$	10	$16\frac{3}{4}$	$17\frac{3}{4}$	$17\frac{3}{4}$	$17\frac{3}{4}$
Idler Shaft										
Diameter—Inches	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$	$1\frac{7}{16}$
Diameter of Idler—Inches	8	12	12	12	12	8	12	12	12	12
Approx. Shipping Weight—Lbs.										
Machinery Terminals	400	560	860	910	1050	410	685	1030	1080	1455
Chain and Bucket per foot Ctrs.	10	17	24	28	31	10	17	24	28	32
Idlers each, Complete	34	54	83	84	85	34	54	83	85	86

* Horsepower listed for Maximum Centers.

Bucket Elevators



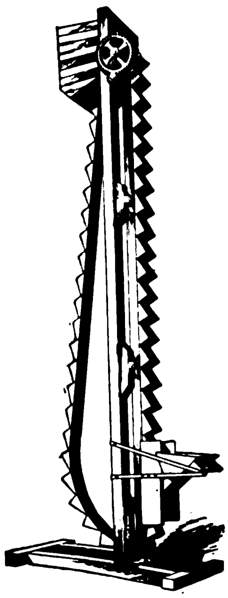
Inclined Elevators for Sand, Gravel and other Similar Materials

Always give Elevator Number and Feet Centers when ordering. Supports furnished by Purchaser.

Elevator No.	0 to 40 ft. Centers					41 to 80 ft. Centers				
	1204	1208	1212	1216	1220	1229	1233	1237	1241	1245
A	10	11	12	13	14	10	11	12	14	15
B	10	12	14	16	18	10	12	14	16	18
C	14	16	18	20	22	14	16	18	20	22
D	1 3/16	1 3/16	2 5/8	3 1/8	3 1/8	1 3/16	3 1/8	3 1/8	3 1/8	3 1/2
E	17	19	22	23	23	18	20	23	24	24 1/2
F	24 5/8	26 1/4	30 3/4	30 1/2	30 3/8	25 1/2	27	31 3/4	31 1/4	32 1/2
G	24 1/2	26 1/4	29	31 7/8	31 7/8	25	26 7/8	29 3/4	32 5/8	33
H	8	10	12	14	14	8	10	12	14	14
J	6	7 1/2	9	10 1/2	10 1/2	6	7 1/2	9	10 1/2	10 1/2
K	14 1/2	17 15/16	17 15/16	17 15/16	19 5/8	14 1/2	17 15/16	19 5/8	19 5/8	22 5/16
L	2 1/4	2 1/4	2 3/4	2 3/4	2 3/4	2 1/4	2 1/4	2 3/4	2 3/4	2 3/4
M	11 3/4	11 3/4	12	12	12	11 3/4	11 3/4	12	12	12
N	25	28 1/2	30 1/2	31	31	25	28 1/2	30 1/2	31	31
O	6	6	6	6	6	6	6	6	6	7
P	18 1/4	19 1/4	21	22 3/4	23 3/4	18 1/4	20 3/4	21 3/4	23 3/4	26 1/8
R	17 1/4	18 1/4	20 3/4	22 3/4	23 3/4	17 1/4	20 3/4	21 3/4	23 3/4	25 3/4
S	6	6	6	6	6	6	6	6	8	8

Dimensions given are in inches. Elevator Centers $= \sqrt{X^2+y^2}$

Bucket Elevators



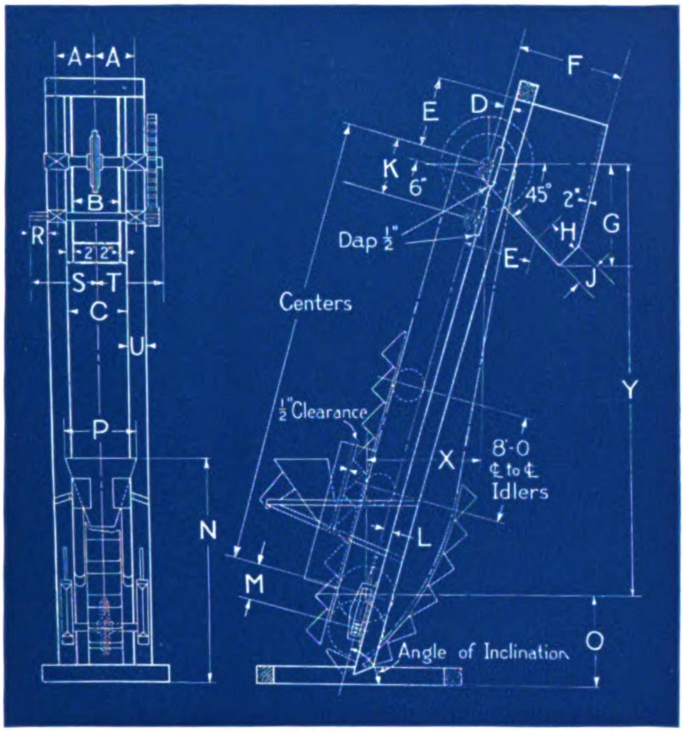
Continuous Bucket Elevators for Stone and other Similar Materials

At the right is shown a typical installation of a Jeffrey Continuous Bucket Elevator installed for handling crushed stone.

Elevator No.	0 to 40 ft. Centers		41 to 80 ft. Centers	
	258	266	283	290
Maximum Size Piece in Inches				
Not to exceed 10% of whole	3½	4½	3½	4½
Capacity—In Tons per Hour				
Buckets 80% full	39	80	39	80
Size of Bucket				
Length—Inches	12	14	12	14
Projection—Inches	6	8	6	8
Depth—Inches	12	12	12	12
Gauge of Steel	12	12	12	12
Chain				
Number and Style	82R	110H	110H	111 Sp
Pitch—Inches	3.08	6	6	4.78 & 7.22
Attachment	K-2	K-2	K-2	K-2
Speed Feet per Minute	125	125	125	125
Working Strength—Lbs.	3000	3900	3900	5600
***Horsepower At Countershaft**	2.6	5	5.2	9.3
Head Shaft				
Diameter—Inches	2 15/16	3 7/16	3 7/16	3 15/16
Rev. per Minute	21	21	21	21
Diameter Sprocket—Inches	23½	23½	23½	23½
Gear Diameter—Inches	29.83	35.82	35.82	36.78
Gear Pitch—Inches	1¼	1½	1½	1¾
Gear Face—Inches	3	4	4	5½
Countershaft				
Diameter—Inches	2 7/16	2 11/16	2 11/16	2 15/16
Rev. per Minute	105	105	105	100
Pinion Diameter—Inches	6.01	7.22	7.22	7.86
Pinion Face—Inches	3¼	4½	4½	6
Foot Shaft				
Diameter—Inches	1 15/16	2 7/16	2 7/16	2 7/16
Diameter Sprocket	19¾	19¾	19¾	19½
Idler Shaft				
Diameter—Inches	1 3/16	1 7/16	1 7/16	1 7/16
Diameter of Idler	12	12	12	12
Approx. Shipping Weight—Lbs.				
Machinery Terminals, Complete	875	1360	1325	1810
Chain and Buckets per foot Centers	36	57	47	54
Loading Chute	215	242	215	244
Idlers, each Complete	56	86	84	87

* Horsepower listed for Maximum Centers.

Bucket Elevators



Continuous Bucket Elevators for Stone and other Similar Materials

Always give Elevator Number and Feet Centers when ordering. Supports furnished by Purchaser.

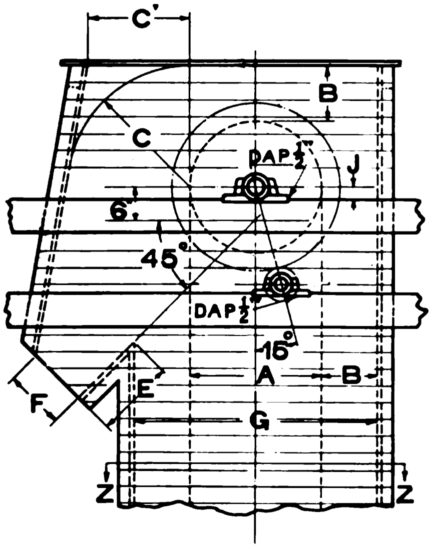
Elevator No.	0 to 40 ft. Centers		41 to 80 ft. Centers	
	258	266	283	290
A	13	15	13	16
B	16	18	16	18
C	20	22	20	22
D	3⅛	3½	3½	4⅛
E	22	24	22	24
F	31¾	31	31¾	31
G	28¼	34¼	29¾	34¼
H	12	16	12	16
J	9	12	9	12
K	17 15/16	21½	21½	22 5/16
L	2¾	3⅛	3⅛	3⅛
M	12	15	15	15
N { Max.	75½	81¾	75½	81¾
N { Min.	67¼	72½	67¼	72¾
O	31	36	33½	36
P	24	28	24	28
R	6	7	7	8
S	22¾	26⅛	24⅛	28½
T	22¾	25¾	23¾	28¼
U	6	8	6	10

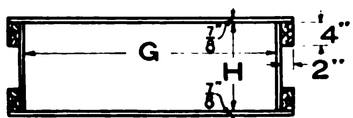
Dimensions given are in inches.

Elevator Centers $= \sqrt{X^2+y^2}$

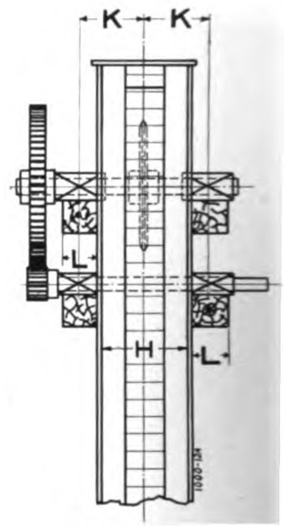
Bucket Elevators

Wood Casings





SECTION-"Z-Z."



Instructions for Building Your Own Casing

THE above method of laying out and building a wood elevator casing is given here as an aid to those who desire to build their own wood casings. It will be noted that all dimensions are based on the size of bucket and head sprocket of the elevator for which casing is to be built.

The casings are usually made of 7/8" tongue and groove stock with 2" x 4" uprights in corners on outside thus keeping the inside smooth, as shown in cross section Z-Z.

At the factory these casings are made in 10'-0" sections to facilitate handling, but the casings may be built up in one piece if desired. The head should be made so the section above the headshaft can be removed readily to give access to the chain and buckets.

The timbers carrying the head and countershaft bearings ordinarily should be supported independent of the casing thus relieving it of the load.

The lower or boot section must be made to fit the boot, dimensions of which will be found on the elevator drawings or more in detail on page 390. This section should be provided with one inspection door just above the boot.

A—Pitch Diameter of Sprockets.

B—Bucket Projection plus 3" For Elevators of 0-40 Feet Centers; 4" For Elevators of 41-80 Feet Centers (Bucket Projection Is From Back To Lip At Right Angles To Back.)

C—Radius For Front of Chute, Ordinarily From Pitch Line of Wheel. But C' Must Never Exceed C.

E—Twice The Projection of Bucket.

F—1 1/2 Times Projection of Buckets Up To 8". 1 1/4 Times Projection of Buckets Above 8".

G—A+2 B.

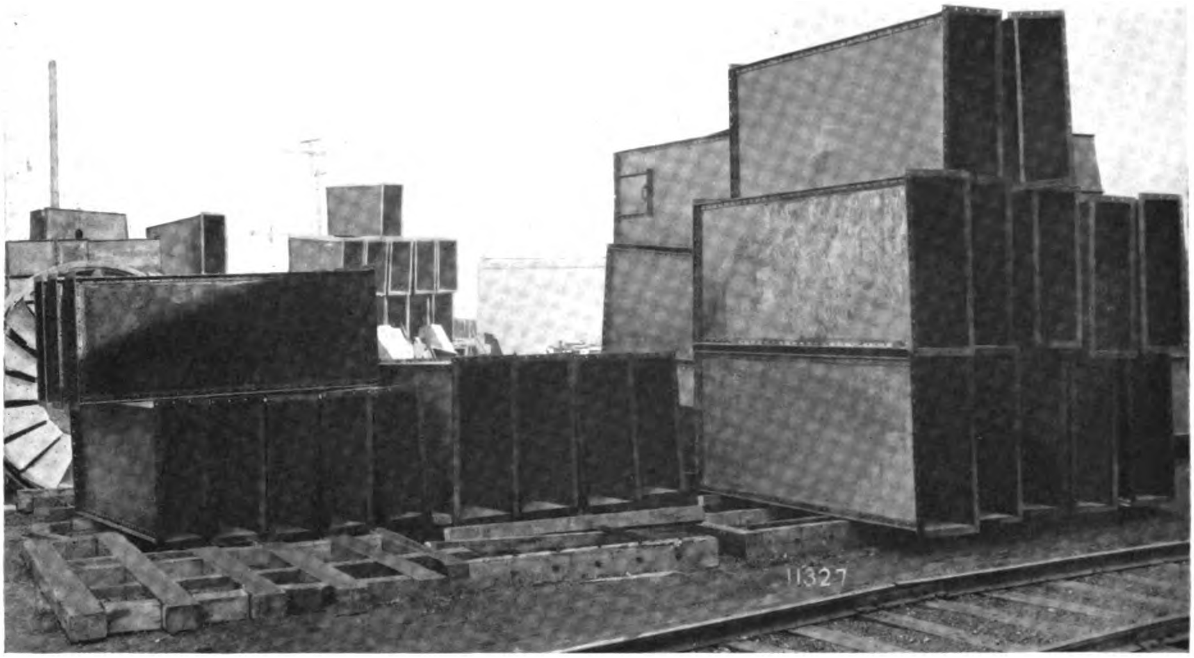
H—Length of Bucket plus 3" For Elevators 0-40 Feet Centers; 4" For Elevators 41-80 Feet Centers.

J—See Dimension on Elevator Drawing.

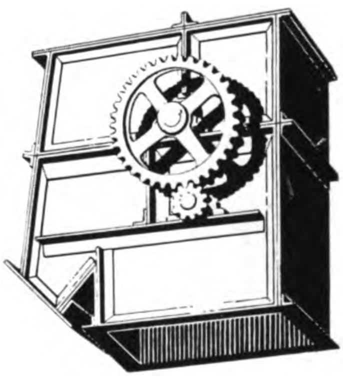
K—See Dimension on Elevator Drawing.

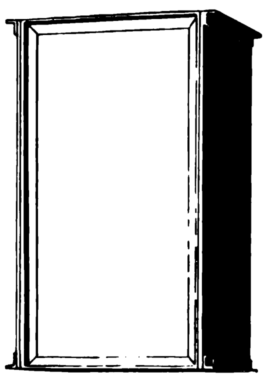
L—See Dimension on Elevator Drawing.

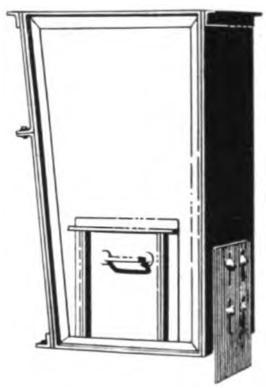
Steel Casings



Casings for Jeffrey Standard Bucket Elevators can be furnished from stock







Head Section

The Head Section of Jeffrey Elevator Casings is designed to carry both head and countershafts, requiring no additional supports for same. The upper portion is made removable for the proper care and inspection of machinery parts. Provision is also made for connecting chutes or spouts to the discharge end of the casing.

Intermediate Section

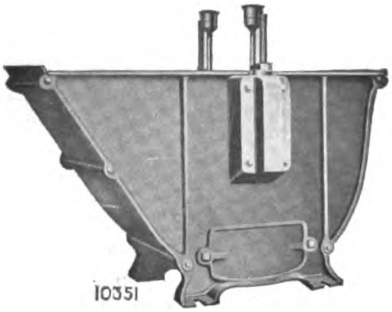
Intermediate Sections of Jeffrey Bucket Elevators are carried in standard lengths as given by drawings on their respective pages. Wherever possible, the elevator centers should conform to those given in table on page 368 in order to eliminate a section of special length.

Foot Section

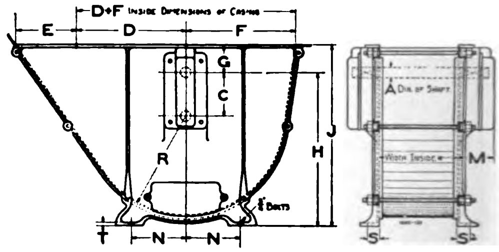
Removable End and Inspection doors on both sides of the Foot Section give easy access to foot end of elevator. A regulating plate is provided to retard the flow of material in excess of the capacity of the elevator. Jeffrey Steel Casings can be made practically dust tight with a little care in installing.

Bucket Elevators

Standard Cast Iron Elevator Boots



With Adjustable Bearings and Steel Plate Bottoms having steep sloping Receiving Throat to insure flowing materials being readily picked up. It is Dust Tight and provided with Large Clean out Doors. As the Leg Seat is perfectly straight, no special carpenter work is needed to fit the elevator leg.



No. of Boot	A	C	D	E	F	G	H	J	M	N	R	S	T
	Dimensions—Inches												
111	$1\frac{3}{16}$	6	12	9	13	$3\frac{7}{8}$	$18\frac{3}{8}$	$22\frac{3}{4}$	$4\frac{7}{8}$	$6\frac{3}{4}$	11	2	$\frac{7}{16}$
112	$1\frac{7}{16}$	$6\frac{1}{2}$	16	10	17	$3\frac{5}{8}$	$23\frac{1}{8}$	$26\frac{7}{8}$	$5\frac{1}{4}$	$8\frac{1}{4}$	15	2	$\frac{1}{2}$
113	$1\frac{15}{16}$	8	19	12	20	$4\frac{13}{16}$	$27\frac{3}{4}$	$32\frac{9}{16}$	$5\frac{5}{8}$	10	18	$2\frac{1}{4}$	$\frac{9}{16}$
114	$2\frac{7}{16}$	10	22	15	23	$5\frac{3}{4}$	33	$38\frac{3}{4}$	$5\frac{7}{8}$	12	21	$2\frac{1}{2}$	$\frac{5}{8}$

*Width inside (see above) = Overall width of moving parts + 3 inches, for Elevators up to 40 feet centers and 4 inches for Elevators above 40 feet centers.

Boot—Buckets Hung by Back to Belt or Chain

No. of Boot	Length and Projection of Bucket	†Diam. of Pulley or Sprocket	Diam. of Shaft Inches	Approx. Weight Lbs.	List Price without Pulley or Sprocket	No. of Boot	Length and Projection of Bucket	†Diam. of Pulley or Sprocket	Diam. of Shaft Inches	Approx. Weight Lbs.	List Price without Pulley or Sprocket
111	3 x3	14		222		113	12 x6	21		520	
	$3\frac{1}{2}$x3	13		224			12 x7	18			
	4 x3	14		226			14 x6	21		530	
	4 x$3\frac{1}{2}$	13		226			14 x7	18			
	$4\frac{1}{2}$x3	14		228			16 x6	21	$1\frac{11}{16}$	540	
	$4\frac{1}{2}$x$3\frac{1}{2}$	13	$1\frac{3}{16}$	228			16 x7	18			
	5 x$3\frac{1}{2}$	13		230	See Price List Bulletin		18 x6	21		550	See Price List Bulletin
	5 x4	12		230			18 x7	18			
	$5\frac{1}{2}$x4	12		232			20 x6	21		560	
	6 x4	12		234			20 x7	18			
112	7 x$4\frac{1}{2}$	18		320		114	14 x8	22		800	
	8 x5	17		325			16 x8	22		820	
	9 x5	17	$1\frac{7}{16}$	330			18 x8	22		840	
	10 x$5\frac{1}{2}$	16		335			20 x8	22	$2\frac{7}{16}$	860	
							22 x8	22		880	
113	10 x6	21		510			24 x8	22		900	
	10 x7	18		510			24 x10	18		900	
	11 x6	21	$1\frac{15}{16}$	515							
	11 x7	18		515							

†Size of wheels listed, permit $\frac{3}{4}$" for height of attachment back of buckets to center of chain.

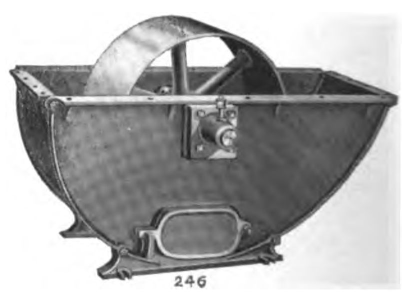
Rigid Bearing Cast Iron Elevator Boots

For Ashes, Sand, Ores, Etc.

This boot is made in two sizes; has rigid Dust Proof Bearings, and can be furnished with a sectional cast iron renewable bottom or a one piece steel bottom as desired.

Boots—Without Sprocket or Pulley

Boot No.	With Cast Iron Bottom Plate: Length of Bucket	Dia. of Pulley or Sprocket	Approx. Weight	List Price	$\frac{1}{4}$" Steel Bottom Plate: Approx. Weight	List Price
57	6"- 7"	23	400	See Price List Bulletin	375	See Price List Bulletin
57	8"	21	420		390	
57	10"	19	440		405	
58	12"	21	500		450	
58	14"	21	520		465	
58	16"	19	540		480	
58	20"	19	580		510	



Bucket Elevators

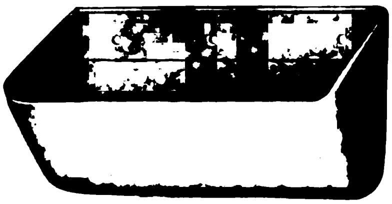
"Morecon" Elevator Belting

The Jeffrey "Morecon" is an extremely durable elevator Belt, specially designed for elevating heavy material, such as crushed stone in sand and gravel plants. It is also used around coal mines, brick plants, construction work, etc.

"Morecon" is ordinarily furnished with a standard $\frac{1}{32}''$ cover, but if desired can be furnished with thicker ones.

Made in 5, 6, 7, 8 and 10 ply in various widths of 8″, 10″, 12″ to 50″, etc.

Standard Steel Elevator Buckets



Front View
Light gauges for Flour, Grain, Seeds, etc.

Rear View
Medium gauges for Coal, Lime, Cement, etc.

Rear View
Heavy gauges for Gravel, Broken Stone, etc.

Front View
Extra heavy gauges for Ashes, Sand, Coke and Ores.

"Jeffrey Rule" for Punching Bucket for Belt

Of Standard, Century and Malleable Types, unless Otherwise Ordered

We furnish Buckets with Double Ends and Double Backs, for which an additional charge is made.

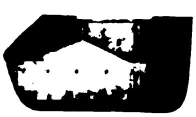
Holes for Chain attachments are placed as best fits the bucket, unless otherwise ordered.

Width of Buckets Inches	*Number of Holes for ¼″ Bolts In One Row	Width of Buckets Inches	*Number of Holes for ¼″ Bolts In Two Rows Staggered
3–4–5–6	2	14–15–16	3 in Top Row 2 in Bottom Row
7–8–9–10	3	18–20–22	4 in Top Row 2 in Bottom Row
11–12–13	4	24	4 in Top Row 3 in Bottom Row

*Holes for Belts are equally spaced central on the back and near the top of the buckets. Use "Reliance or Excelsior" Bolts page 564.

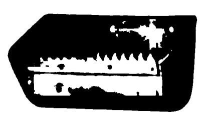
Modified Forms of Standard Steel Buckets

Made to Order



Digger Edge

Sharp Tooth



Saw Tooth

Re-enforced Edge

Bucket Elevators

Standard Steel Elevator Buckets

Regular Sizes

Arranged in the order of "Length, Projections from Belt" and from the Lightest to the Heaviest Gauges. Unless otherwise specified U. S. Gauges of Steel are used in all Standard Buckets and Regular Sheet Steel Work.
Sizes in **Bold Face Type** carried in stock to meet all ordinary demands.

For List Price—See Price List Bulletin

Length x Projection from Belt	Gauge	Approx. Weight 100 Buckets Lbs.	Capacity Bushels per Hour†	Capacity in cubic ft. for each Bucket	Length x Projection from Belt	Gauge	Approx. Weight 100 Buckets Lbs.	Capacity Bushels per Hour†	Capacity in cubic ft. for each Bucket
3 x3	**22**	**28**	87	.008	9x5	8	615	754	.076
	18	44				3/16	726		
	16	55			10x5	**19**	**195**	838	
3½x3	**22**	**29**	102	.009		16	267		
	18	48				14	290		
	16	60				12	420		
4 x3	**22**	**30**	116	.012		10	540		
	18	52				8	655		
	16	65				3/16	774		
4½x3	**22**	**32**	131	.013	10x5½	**19**	**170**	973	.092
	18	56				**16**	**285**		
	16	70				**14**	**326**		
4 x3½	**22**	**45**	159	.016		**12**	**455**		
	18	66				10	585		
	16	82				8	720		
	14	97				3/16	850		
4½x3½	**22**	**48**	179	.017	10x6	**18**	**270**	1220	.110
	18	72				**16**	**340**		
	16	90				**14**	**385**		
	14	104				**12**	**540**		
5 x3½	**22**	**51**	199	.019		**10**	**670**		
	18	78				8	840		
	16	97				3/16	990		
	14	111			11x6	**18**	**285**	1342	.129
5 x4	**20**	**66**	229	.027		**16**	**360**		
	18	93				**14**	**410**		
	16	**116**				12	570		
	14	**126**				10	710		
	12	174				8	890		
5½x4	**20**	**69**	251	.028		3/16	1025		
	18	100			12x6	**18**	**300**	1464	.143
	16	124				**16**	**380**		
	14	134				**14**	**435**		
	12	186				**12**	**600**		
6 x4	**20**	**72**	274	.031		**10**	**750**		
	18	106				8	940		
	16	**132**				3/16	1101		
	14	**142**			14x6	**18**	**340**	1708	.166
	12	198				**16**	**400**		
7 x4½	**20**	**110**	500	.042		14	474		
	18	128				12	660		
	16	**160**				10	830		
	14	**185**				8	1040		
	12	256				3/16	1230		
	10	328			16x6	**18**	**380**	1952	.194
8 x5	**19**	**140**	670	.064		16	445		
	16	**223**				14	520		
	14	**250**				12	725		
	12	**360**				10	910		
	10	460				8	1145		
	8	590				3/16	1350		
	3/16	696			18x6	18	420	2196	.219
9 x5	**19**	**155**	754	.076		16	490		
	16	**245**				14	580		
	14	**270**				12	785		
	12	**390**				10	1000		
	10	500				8	1250		

†To conform to general practice in listing buckets the above listed capacities are for one hour with buckets spaced 12" apart and traveling at the rate of 200 feet per minute. Engineering practice, however is to space buckets about 3 Projections apart, but ordinarily not less than 12" for Bucket Projections less than 4".

Bucket Elevators

Standard Steel Elevator Buckets—Continued

Regular Sizes

Arranged in the order of "Length, Projections from Belt" and from the Lightest to the Heaviest Gauges. Unless otherwise specified U. S. Gauges of Steel are used in all Standard Buckets and Regular Sheet Steel Work.

Sizes in **Bold Face Type** carried in stock to meet all ordinary demands.

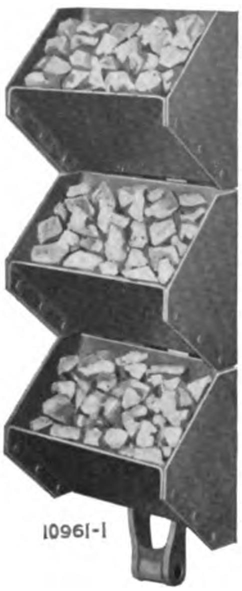
For List Price—See Price List Bulletin

Length x Projection from Belt	Gauge	Approx. Weight 100 Buckets Lbs.	Capacity Bushels per Hour†	Capacity in cubic ft. for each Bucket	Length x Projection from Belt	Gauge	Approx. Weight 100 Buckets Lbs.	Capacity Bushels per Hour†	Capacity in cubic ft. for each Bucket
18x6	$\frac{3}{16}$	1480	2196	.219	**16x8**	18	475	3184	.298
20x6	18	460	2440	.247		16	570		
	16	540				14	710		
	14	630				12	970		
	12	850				10	1225		
	10	1100				8	1520		
	8	1380				$\frac{3}{16}$	1800		
	$\frac{3}{16}$	1625			**18x8**	18	525	3582	.335
10x7	18	290	1590	.138		16	630		
	16	356				14	770		
	14	444				12	1050		
	12	605				10	1325		
	10	785				8	1650		
	8	980				$\frac{3}{16}$	1950		
	$\frac{3}{16}$	1160			**20x8**	18	575	3980	.377
11x7	18	305	1749	.153		16	690		
	16	378				14	830		
	14	472				12	1130		
	12	640				10	1425		
	10	830				8	1790		
	8	1040				$\frac{3}{16}$	2100		
	$\frac{3}{16}$	1225			**22x8**	18	625	4378	.423
12x7	**18**	**320**	1908	.170		16	750		
	16	**400**				14	890		
	14	**500**				12	1210		
	12	675				10	1525		
	10	875				8	1920		
	8	1100				$\frac{3}{16}$	2250		
	$\frac{3}{16}$	1300			**24x8**	18	675	4776	.458
14x7	**18**	**372**	2226	.208		16	810		
	16	**450**				14	950		
	14	**556**				12	1300		
	12	745				10	1650		
	10	965				8	2050		
	8	1220				$\frac{3}{16}$	2400		
	$\frac{3}{16}$	1440			**26x8**	18	725	5174	.537
16x7	**18**	**416**	2544	.227		16	870		
	16	**500**				14	1010		
	14	**612**				12	1380		
	12	815				10	1725		
	10	1055				8	2180		
	8	1340				$\frac{3}{16}$	2550		
	$\frac{3}{16}$	1580			**28x8**	18	775	5572	.578
18x7	18	460	2862	.266		16	930		
	16	550				14	1070		
	14	668				12	1460		
	12	885				10	1825		
	10	1145				8	2310		
	8	1460				$\frac{3}{16}$	2700		
	$\frac{3}{16}$	1720			**30x8**	18	825	5970	.620
20x7	18	504	3180	.257		16	990		
	16	600				14	1130		
	14	720				12	1540		
	12	955				10	1925		
	10	1235				8	2440		
	8	1580				$\frac{3}{16}$	2850		
	$\frac{3}{16}$	1860							

†To conform to general practice in listing buckets the above listed capacities are for one hour with buckets spaced 12" apart and traveling at the rate of 200 feet per minute. Engineering practice, however, is to space buckets about 3 Projections apart, but ordinarily not less than 12" for Bucket Projections less than 4".

Bucket Elevators

Continuous Type of Steel Buckets
Extensively used for handling Broken Stone, Sand, Gravel, Coal, etc.



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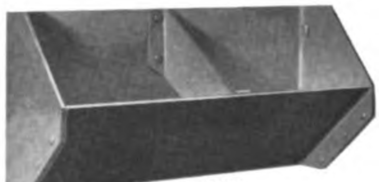

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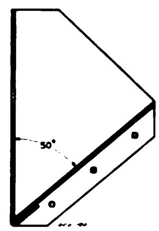
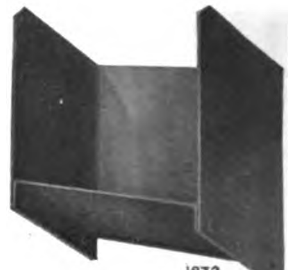
All Continuous Buckets 26 inches long and over are further strengthened by the addition of a center brace as shown above.





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Style D-1—A modified form of the Style D and used on elevators inclined about 60 degrees to the horizontal for the carrying of practically uniform sized materials.

THE Jeffrey Continuous Bucket is a two-piece bucket. The ends and back being formed from one piece with the bottom riveted on in such a manner that the rivets are on the outside. In this construction the rivet heads do not come in contact with the material, thus eliminating the annoyance of the buckets pulling apart due to the rivet heads wearing off.

Style A Buckets, same as style D except without flange can be furnished upon demand.

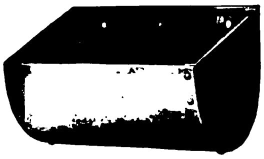
Cross-Section of the Jeffrey Continuous Bucket shows the back flanged to completely close the joint between the back and the bottom of the bucket. This flange also serves as a stiffener to the back and bottom insuring the bucket against buckling when handling heavy material.

Style D Buckets
For List Price—See Price List Bulletin

Length of Back	Projection From Back of Bucket	Height of Back	Capacity in Cubic Feet	Gauge of Steel						
				18	16	14	12	10	3/16	1/4
8	5	7¾	.082	*	*	*	*	*	....	....
10	5½	8¾	.124	*	*	*	*	*	....	....
12	6	11¾	.177	....	*	*	*	*	*	....
12	7	11¾	.241	....	*	*	*	*	*	*
14	6	11¾	.206	....	....	*	*	*	*	*
14	7	11¾	.281	....	....	*	*	*	*	*
14	8	11¾	.367	....	....	....	*	*	*	*
14	9	11¾	.465	....	....	....	*	*	*	*
16	7	11¾	.322	....	....	*	*	*	*	*
16	8	11¾	.419	....	....	....	*	*	*	*
16	9	11¾	.531	....	....	....	*	*	*	*
18	7	11¾	.361	....	....	*	*	*	*	*
18	8	11¾	.472	....	....	....	*	*	*	*
18	9	11¾	.597	....	....	....	*	*	*	*
20	8	11¾	.524	....	....	....	*	*	*	*
20	9	11¾	.663	....	....	....	*	*	*	*
22	8	11¾	.576	....	....	....	*	*	*	*
22	9	11¾	.729	....	....	....	*	*	*	*
24	8	11¾	.629	....	....	....	*	*	*	*
24	9	11¾	.795	....	....	....	*	*	*	*
26	10	11¾	1.00	....	....	....	....	....	*	*
28	10	11¾	1.08	....	....	....	....	....	*	*
30	12	17¾	1.768	....	....	....	....	....	*	*
36	12	17¾	2.122	....	....	....	....	....	*	*
42	12	17¾	2.476	....	....	....	....	....	*	*
42	16	23¾	4.40	....	....	....	....	....	*	*
48	12	17¾	2.83	....	....	....	....	....	*	*
48	16	23¾	5.03	....	....	....	....	....	*	*

*Indicates those sizes made in various gauges.

Standard "Century" Steel Buckets



Standard Type

A general, all-round serviceable Bucket for light and heavy work and for all capacities. It is made of sheet steel, its body being firmly riveted to the ends, making it well shaped and perfect in discharging.

This Century Bucket is an ideal one for centrally hung bucket elevators.

High Back Type

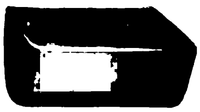
For List Price—See Price List Bulletin

Size Bucket	Gauge of Steel					
	16	14	12	10	$\frac{3}{16}$	¼
6 x 4	*	*	*	*	....	....
7 x 4	*	*	*	*	....	....
8 x 5	*	*	*	*	....	....
9 x 5	*	*	*	*	....	....
10 x 6	*	*	*	*	*	....
12 x 6	*	*	*	*	*	....
14 x 6	*	*	*	*	*	....
16 x 6	*	*	*	*	*	....
18 x 6	*	*	*	*	*	....
20 x 6	*	*	*	*	*	....
10 x 7	....	*	*	*	*	....
12 x 7	....	*	*	*	*	....
14 x 7	....	*	*	*	*	....
16 x 7	....	*	*	*	*	....
18 x 7	....	*	*	*	*	....
20 x 7	....	*	*	*	*	....
16 x 8	....	*	*	*	*	....
18 x 8	....	*	*	*	*	....
20 x 8	....	*	*	*	*	....
22 x 8	....	*	*	*	*	....
24 x 8	....	*	*	*	*	....
16 x 10	....	*	*	*	*	....
18 x 10	....	*	*	*	*	....
20 x 10	....	*	*	*	*	....
22 x 10	....	*	*	*	*	....
24 x 10	....	*	*	*	*	*
16 x 12	....	....	*	*	*	*
18 x 12	....	....	*	*	*	*
20 x 12	....	....	*	*	*	*
22 x 12	....	....	*	*	*	*
24 x 12	....	....	*	*	*	*
26 x 12	....	....	*	*	*	*
28 x 12	....	....	*	*	*	*
18 x 14	....	....	*	*	*	*
20 x 14	....	....	*	*	*	*
22 x 14	....	....	*	*	*	*
24 x 14	....	....	*	*	*	*
26 x 14	....	....	*	*	*	*
28 x 14	....	....	*	*	*	*
30 x 14	....	....	*	*	*	*
24 x 16	....	....	....	*	*	*
26 x 16	....	....	....	*	*	*
28 x 16	....	....	....	*	*	*
30 x 16	....	....	....	*	*	*

* Indicates those sizes made in various gauges.

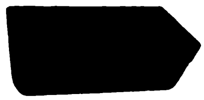
Bucket Elevators

Malleable Iron Buckets



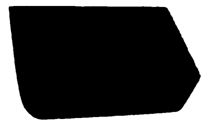
M. S. Style A

The standard bucket in most general use.



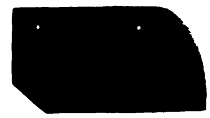
M. S. Style AA

When handling gritty materials the life of the bucket is prolonged by the heavily reinforced front edge and corners.



M. S. Style B

Most advantageously used when elevator is on an incline and handling coarse materials.



M. S. Style C

This Bucket will handle satisfactorily such materials as tend to stick and pack in other buckets, like clay, finely pulverized wet ores, sugar, etc.

OF superior quality and of approved pattern and weight, these buckets are smooth, seamless and strong, and afford a perfectly clean delivery of the material. They are especially adapted for handling ores, stone, phosphates, cement, coal and other gritty and abrasive materials. In ordering, state whether buckets are to be punched for flat belt or for chain, and if for the latter give size and number of strands of chain and style of attachments.

Bold-Face Type indicates **Sizes Carried in Stock** to meet all ordinary requirements. Those not in bold faced type will be furnished as required subject to occasional delays.

Malleable Iron Buckets

For List Price—See Price List Bulletin

Size of Bucket Inches	Capacity Cubic Feet	Approx. Weight Lbs.
M. S. Style A		
4 x 2¾ x 3	.009	.95
4½ x 3 x 3½	.014	1.28
5 x 3½ x 3¾	.018	2.06
6 x 4 x 4¼	.030	2.25
7 x 4½ x 5	.050	3.42
8 x 5 x 5½	.068	5.00
10 x 6 x 6¼	.119	7.80
11 x 6 x 6¼	.122	7.15
12 x 6 x 6¼	.131	8.25
12 x 7 x 7¼	.194	10.80
14 x 6 x 6¼	.210	11.18
14 x 7 x 7¼	.226	13.25
14 x 8 x 8½	.286	17.25
16 x 7 x 7¼	.256	14.50
16 x 8 x 8½	.339	19.10
18 x 8 x 8½	.381	19.80
18 x 10 x 10½	.609	34.00
M. S. Style AA		
6 x 4 x 4¼	.030	2.82
8 x 5 x 5½	.068	5.60
10 x 6 x 6¼	.119	8.65
11 x 6 x 6¼	.122	9.00
12 x 6 x 6¼	.131	9.00
M. S. Style AA—Continued		
12 x 7 x 7¼	.194	11.90
14 x 6 x 6¼	.210	12.15
14 x 7 x 7¼	.226	14.00
15 x 7 x 7¼	.235	14.34
16 x 7 x 7¼	.258	16.00
16 x 8 x 7	.339	20.50
18 x 8 x 8½	.381	24.00
24 x 8 x 8½	.495	46.00
M. S. Style B		
4 x 1½ x 2¼	.0035	.31
7 x 3½ x 5	.031	2.50
8 x 3½ x 5	.035	2.72
10 x 4 x 5½	.068	6.15
12 x 5½ x 7½	.130	7.63
16 x 6½ x 9	.243	15.00
M. S. Style C		
6 x 4½ x 4	.028	2.56
8 x 4½ x 4	.039	2.94
10 x 5 x 4	.046	3.14
12 x 5 x 4	.058	5.10
12 x 6 x 6	.109	6.67
14 x 7 x 5½	.131	9.81
16 x 7 x 5½	.164	11.81
18 x 8 x 8	.279	15.00

Bucket Elevators

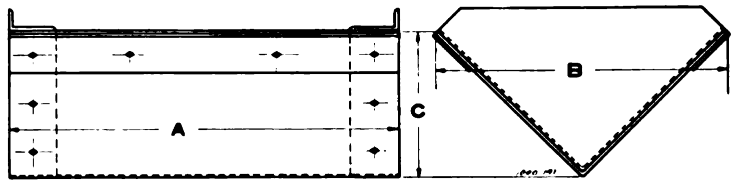
Steel "V" Buckets

For Complete Information on V-Bucket Conveyors, see pages 42 to 65.

JEFFREY Steel V-Buckets are designed not only to elevate material but to act as scrapers on the horizontal.

The edges of the buckets are re-enforced with 1½″ x $\frac{3}{16}$″ stiffening bars for 12″ x 6″, 14″ x 7″ and 16″ x 8″ buckets. On other sizes 2″ x ¼″ stiffening bars are used.

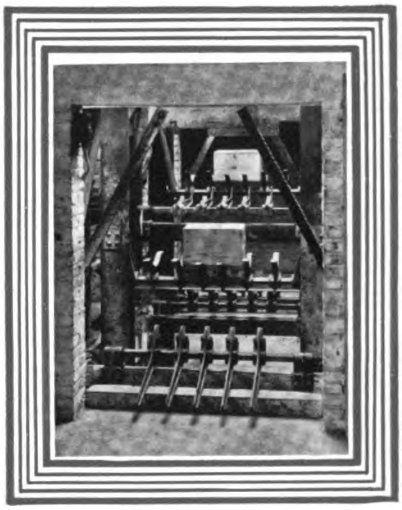
On the Jeffrey Standard V-Bucket Elevators and Conveyors the following selected Chains are used in connection with the VE-1 Attachments: 516 F & R, 518 F & R, 526 Vulcan, 558 Vulcan, 126 C. M. R., 951 S. T. R. 276 S. T. R., 180 S. T. R. and 182½ S. T. R.



For List Price—See Price List Bulletin

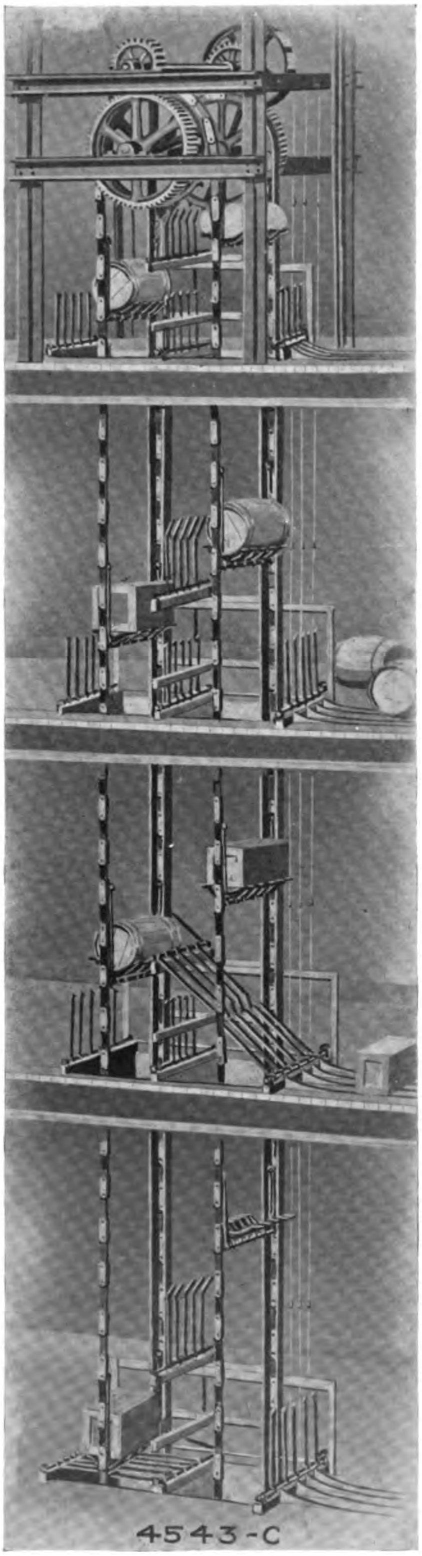
A Length	B Width	C Depth	Capacity in Cubic Feet	Gauge of Steel Weight—Pounds 12	10	$\frac{3}{16}$	¼	$\frac{5}{16}$
16	12	6	.306	16.8	20.7	26.5	....	....
18	12	6	.345	18.4	22.6	28.8	....	....
20	12	6	.384	19.8	24.3	30.9	....	....
22	12	6	.423	21.1	26.0	33.0	....	....
24	12	6	.463	22.5	27.6	35.1	....	....
18	14	7	.473	21.9	27.0	34.6	....	....
20	14	7	.527	23.4	28.9	37.0	....	....
22	14	7	.583	25.0	30.9	39.5	....	....
24	14	7	.633	26.6	32.8	42.0	....	....
26	14	7	.688	28.2	34.8	44.5	....	....
28	14	7	.741	29.9	36.8	47.0	....	....
20	16	8	.693	26.5	32.9	42.3	....	....
22	16	8	.763	28.2	35.1	45.1	....	....
24	16	8	.835	30.0	37.2	47.9	....	....
26	16	8	.905	31.8	39.5	50.6	....	....
28	16	8	.977	33.6	41.7	53.5	....	....
30	16	8	1.047	35.4	43.9	56.3	....	....
32	16	8	1.116	37.1	46.0	59.0	....	....
24	18	9	1.035	....	45.6	57.9	74.6	....
26	18	9	1.124	....	48.3	61.5	78.9	....
28	18	9	1.210	....	50.9	64.5	84.0	....
30	18	9	1.300	....	53.6	67.9	87.3	....
32	18	9	1.383	....	56.3	71.2	91.5	....
34	18	9	1.472	....	58.8	74.4	95.6	....
36	18	9	1.556	....	61.4	77.8	99.8	....
26	20	10	1.390	....	53.5	68.3	88.1	....
28	20	10	1.503	....	56.4	71.8	92.6	....
30	20	10	1.615	....	59.4	75.5	97.4	....
32	20	10	1.727	....	62.2	79.1	102.0	....
34	20	10	1.830	....	65.1	82.7	106.6	....
36	20	10	1.940	....	68.0	86.3	111.2	....
38	20	10	2.050	....	70.9	90.0	115.9	....
40	20	10	2.160	....	73.7	93.5	120.4	....
30	24	12	2.290	....	....	91.4	118.5	145.6
32	24	12	2.450	....	....	95.6	123.9	152.2
34	24	12	2.610	....	....	99.8	129.3	158.8
36	24	12	2.770	....	....	104.0	134.7	165.4
38	24	12	2.920	....	....	108.3	140.2	172.1
40	24	12	3.070	....	....	112.4	145.5	178.6
42	24	12	3.230	....	....	116.7	151.0	185.3
44	24	12	3.390	....	....	120.9	156.4	191.9
46	24	12	3.550	....	....	125.0	161.7	198.5
48	24	12	3.700	....	....	129.2	167.1	205.1

Tray Elevators



Section 15

Tray and Barrel Arm Elevators



Tray Elevator handling barrels, boxes and bags in a warehouse

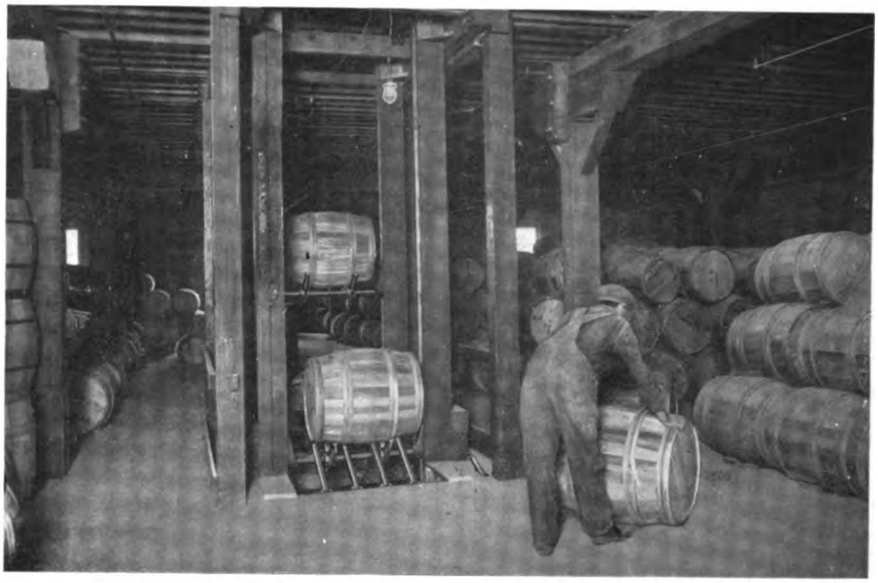
TRAY Elevators are miniature platform elevators constantly moving up one side and down the other through hatchways or floor openings. They are used primarily in the handling of boxes, barrels, bags and miscellaneous merchandise between the various floors of warehouses and storage buildings when the quantity of material handled justifies the almost constant use of the elevator.

Although ordinarily used in the vertical the same elevator may also be run horizontally at either terminal. The trays always carrying in a horizontal position, makes it possible to handle fragile materials and liquids in cans, pails, etc.

Readily operated loading and unloading fingers at each floor used in connection with department telephones, speaking tubes or electric push buttons enable the Tray Elevator to effect great economy in quickly loading in and loading out.

Here boxes of merchandise are carried to and from the various floors by a Tray Elevator.

Tray and Barrel Arm Elevators



THE size of pieces handled by the Tray Elevator is limited only to one's ability to readily place the same upon the receiving fingers of the elevator and to control delivery from the unloading fingers. Barrels weighing 650 pounds each have been handled.

Tray Elevators have been economically installed to minimum heights of about 30 feet in small plants and in larger plants to a maximum of 120 feet high, handling 120 barrels per hour.

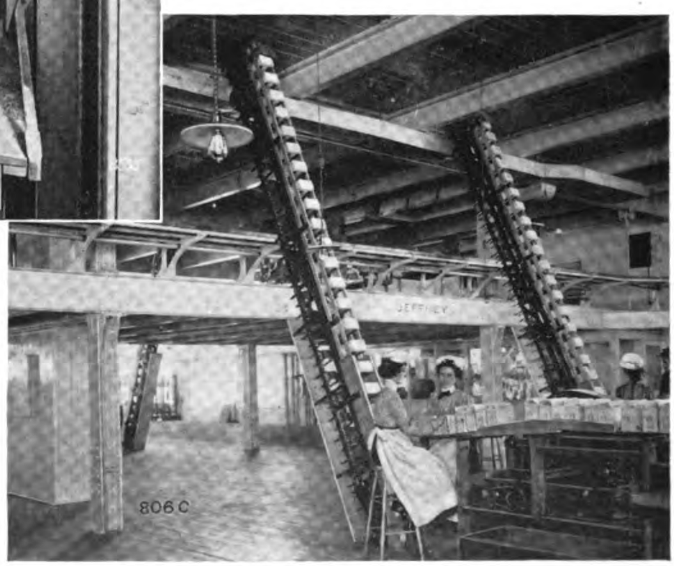
The Tray Elevator is not limited to packages of uniform size or kind, it simply being necessary that the pieces be compact with at least one surface of the hardness of a well filled bag and not under 12″ x 18″ in size.

Accompanying views show Jeffrey Tray and Barrel Arm Elevators handling Barrels, Bags and Miscellaneous articles in such industries as Flour Mills, Glue Factories, Wholesale Groceries, Warehouses and the like.

Tray and Barrel Arm Elevators

Transferring Barrels from basement storage to delivery platform with a Rigid Arm Elevator.

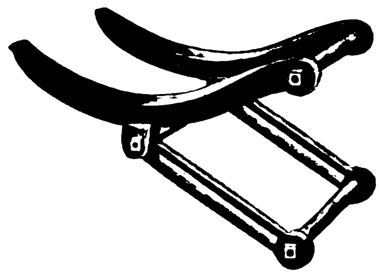
THE Rigid Arm Elevator is a specific adaptation of the Tray Elevator for the vertical or inclined handling of barrels, bags and fixed sizes of cartons, boxes, etc. Requires the smallest amount of durable machinery and is especially fitted to industries handling large quantities of materials in uniform size containers.



The above view shows a Jeffrey Tray Elevator handling package material in a large warehouse, while the lower illustration is that of a Rigid Arm Elevator carrying boxes from the packing room of a cereal food factory.

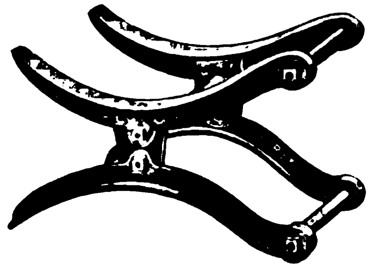
Tray and Barrel Arm Elevators

For Light and Heavy Service in All Industries



B-1 Rigid Curved Arms
Made in Light and Heavy Designs.

Receive at the bottom or at any floor going up and deliver over the top only. A popular type, simple, cheap and durable.



B-2 Rigid Curved Double Arms

Receive loads at any floor going up and discharge over top. Also receive and discharge at various floors going down.

B-3 "Set of Four" Rigid Curved Arms

Receive and deliver same as B-1 Arms. Outside arms take Barrels—inside arms Kegs and Sacks, thus giving a wider range of service.

Made in sizes to accommodate 12″ dia. to 24″ dia. barrels and similiar packages to a maximum weight of about 450 lbs.

Receiving Position
B-10 Curved Tilting Arms

Receives and delivers loads going up only. Trip lugs placed at various floors engage the ends of the arms and discharge the loads.

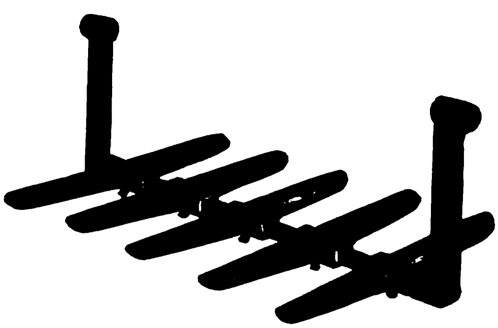
B-11 Combined Rigid and Tilting Arms

Receive and deliver at various floors going up same as B-10 and also when going down.

T-3 Wood or Steel Platform Tray

Platform Trays are made in small and large sizes for light and heavy duty from the handling of napkins, table ware, cans, etc., to heavy boxes, barrels, sewer tile, etc.

T-4 Combination Fingers



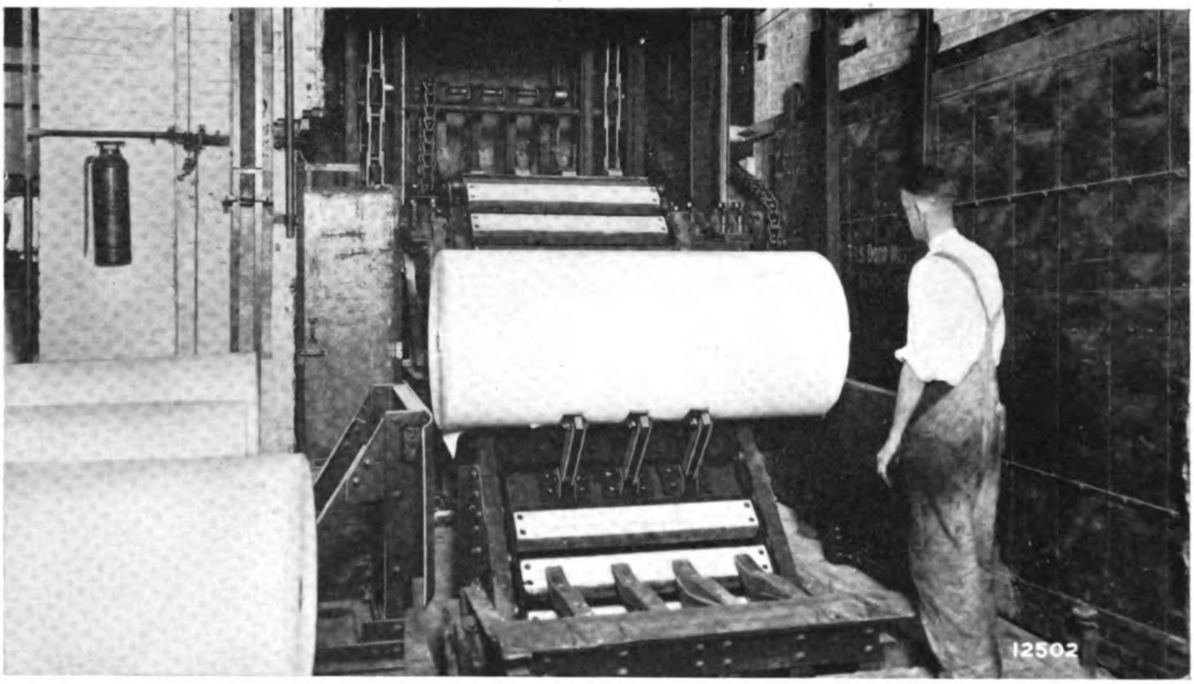
T-1 Straight Fingers

T-2 Curved Fingers

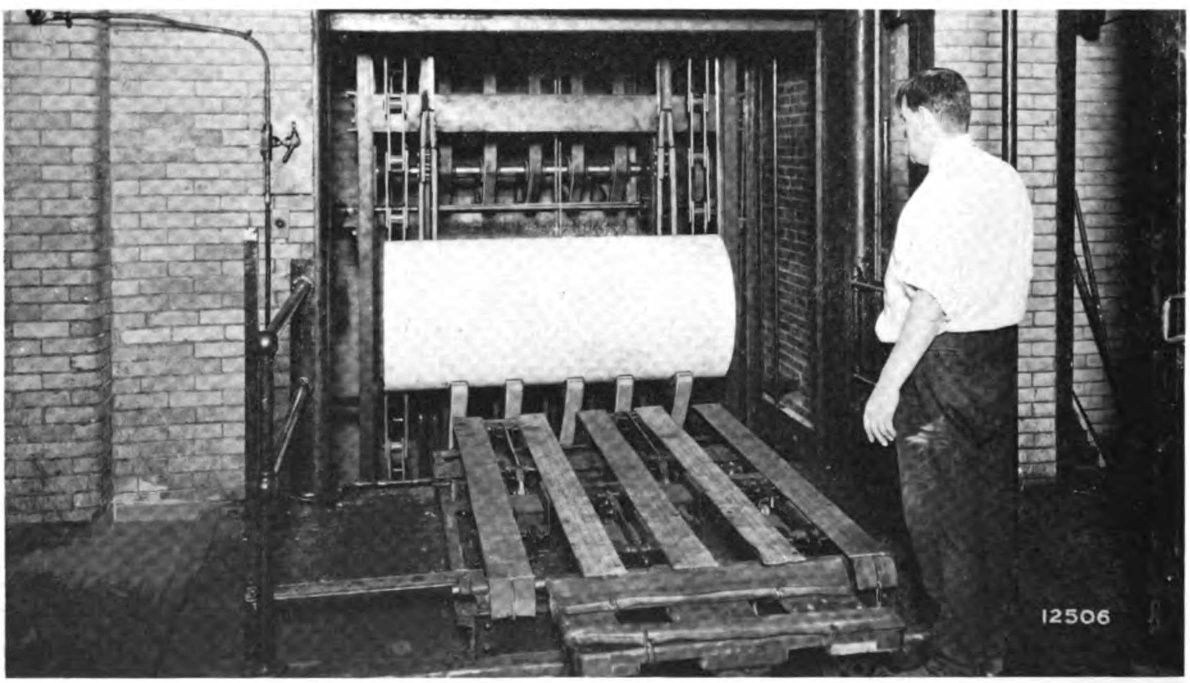
The Three Types of Fingered Trays shown above are built in various lengths of Fingers, Hanger Arms, and Cross Bars to suit size and weight of material handled.

Jeffrey Barrel Arm and Tray Elevators are used to handle many odd shaped pieces such as Quarters of Beef, Lumber, Ties, etc.

Tray and Barrel Arm Elevators



Handling rolls of paper with a Jeffrey Rigid Arm Elevator in one of the largest Publishing Houses in the world. This view shows the roll being carried to the elevator by the Automatic Loader.



Delivery end of the above installation, showing how the rolls are automatically discharged onto the unloading fingers. This elevator has a capacity of 90 rolls of paper per hour, varying in lengths from 32" to 68" and weighing from 900 to 1800 pounds.

Tray and Barrel Arm Elevators

Newspaper Elevator-Conveyor

(Patented)

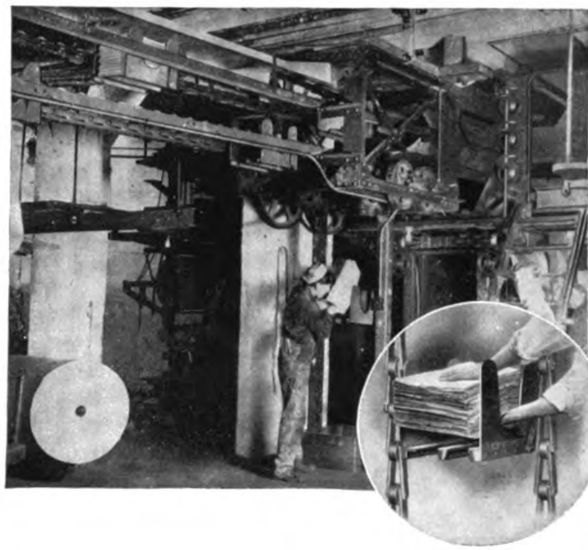
In the Receiving Room of a Newspaper Publishing House where the Automatic Delivery Tables carry the papers away from the Trays.

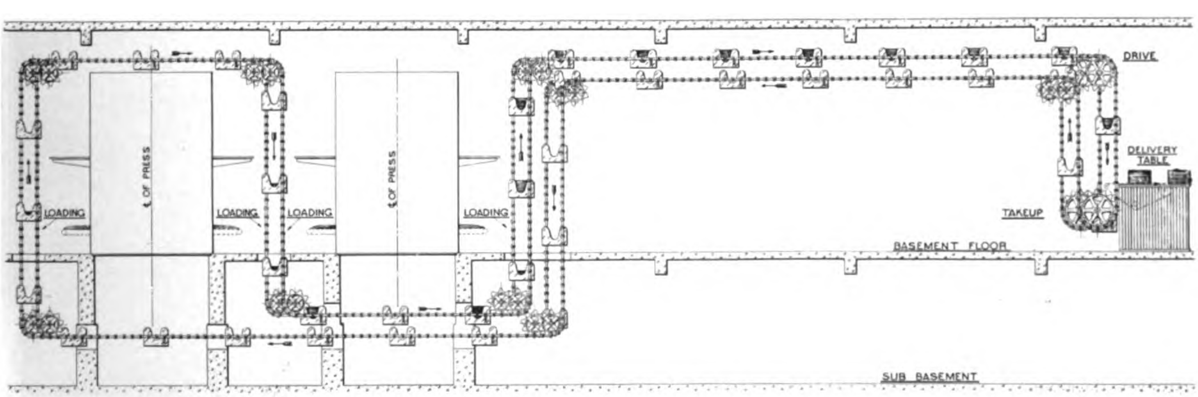
A close-up showing two of the Elevators discharging the papers onto the Automatic Delivery Tables.

THE Jeffrey Newspaper-Elevator-Conveyor was developed for transferring newspapers from presses to mailing and delivery rooms, and can also be used to carry Packages of rather uniform size and shape.

The suspension of the Newspaper Tray on diagonally opposite corners enables it to remain horizontal and practically rigid in all positions of the Conveyor.

The bottom of the tray is cut out in such a manner as to allow the projecting arms of delivery tables to extend back under the tray and engage the papers. The papers from the presses are placed on the carrier by hand, or may be loaded on trays from loading tables.



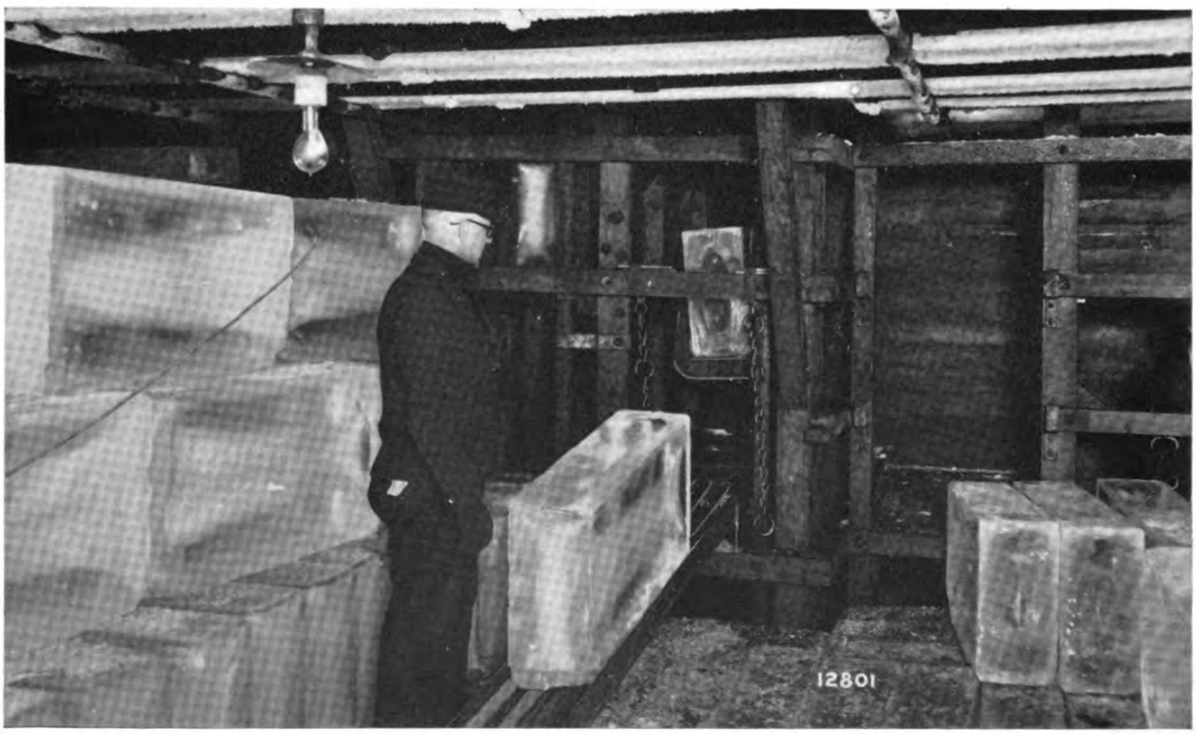


Above is shown a cross section of one of three Conveyors installed in a large Western Newspaper Publishing House. This equipment has four loading points, one automatic delivery table and a capacity of 60,000 papers per hour. Other Jeffrey Newspaper Conveyors have also been built to handle 100,000 papers per hour.

Tray and Barrel Arm Elevators

Ice Elevators

Jeffrey Ice Elevators have proven a great factor in reducing handling costs in Ice and Refrigerating Plants. The above illustration shows the ice from the freezing room being loaded on the elevator arms. Elevator is also used for reclaiming the ice from storage.



Ice being discharged to storage room by the Ice Elevator. In this installation, the Jeffrey Ice Elevator makes possible the storing of many thousand tons of ice for summer use.

Portable Machinery

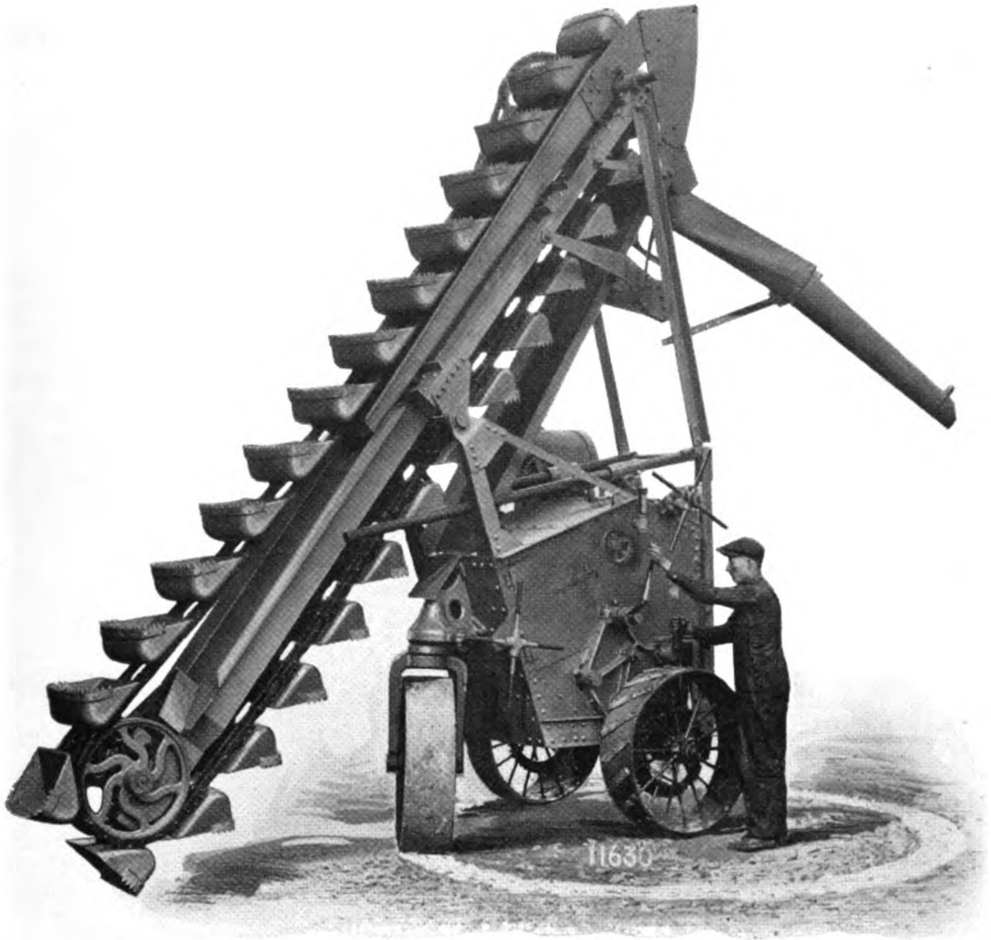
Section 16

Radial Loader—Type G

Type "G" Radial Loader reclaiming coal from ground storage in the yards of a Retail Coal Company

Handling Crushed Stone with the Type "G" Loader at a large quarry. Its capacity of 1½ to 2 cubic yards per minute enables it to load large trucks in a few minutes time.

Radial Loader—Type G

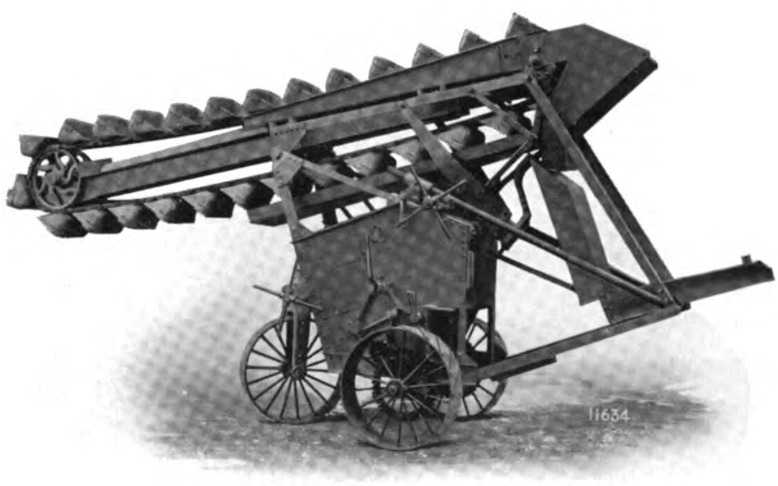


Showing the small radius in which the Jeffrey Radial Loader will operate; a feature which enables the machine to turn in congested places or around a corner

THE Radial Loader has a capacity of 1½ to 2 cubic yards per minute in the handling of Sand, Gravel, Crushed Stone, Coal, Coke, Ashes, Cinders and other loose materials.

Jeffrey Radial Loaders are proving a great factor in reducing loading costs. The wages of five to ten men per day are saved and more material is handled in a given time. In addition to this the machine cuts down the expensive waiting time of trucks and wagons while being loaded.

Only one man is required to operate the loader—all controlling levers being in plain sight and very handy and easily moved.



Type "G" Loader completely collapsed. This can be readily done without unloosening a bolt

The construction is very rugged, enabling it to withstand severe and rough service incident to the handling of heavy materials.

Radial Loader—Type G

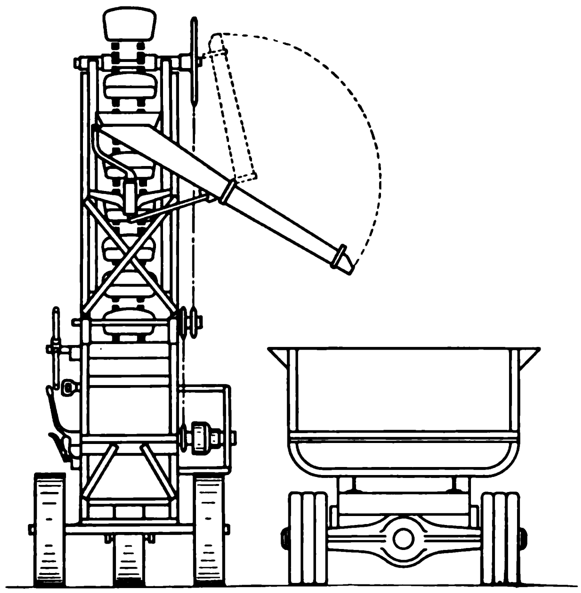
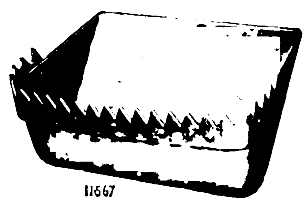


Diagram showing the flexibility and wide range of adjustment of the swivel spout.

Efficiency in Loading Trucks

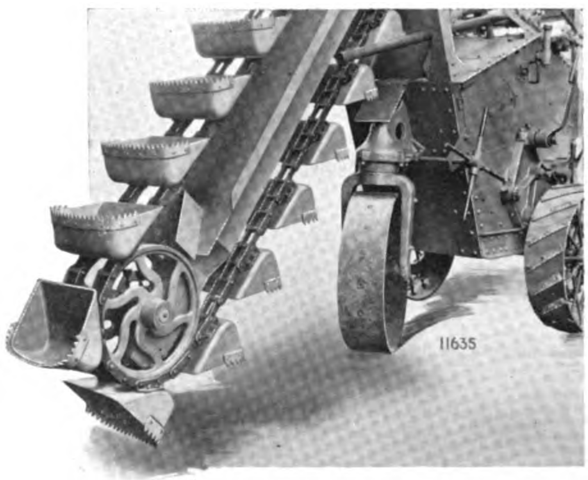
BEING mounted on a hinged support the Swivel Spout on the Jeffrey Type G Radial Loader, is readily and easily adjustable to discharge material perfectly on either side or rear of the machine.

The diagram at left illustrates a simple method of loading a truck by placing it parallel to Loader, so that spout will discharge in extreme rear end of truck. As the Loader gradually feeds itself into the pile of material to a depth of 10 feet, it will simultaneously distribute the material uniformly in truck, thereby eliminating hand trimming or shifting of the truck while being loaded.

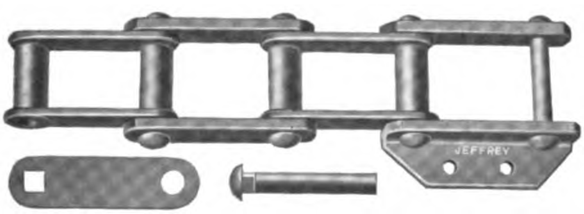


Digger Edge Bucket.

Buckets designed for heavy service—18″ x 12″ Heavy Malleable Iron Buckets with renewable Digger Edge Steel Teeth riveted on front lips and ends protect them from wear. The bucket is designed to enable it to pick up material at the foot of elevator without flipping and at the same time to give perfect discharge at the head of the elevator. Each bucket secured with four bolts.

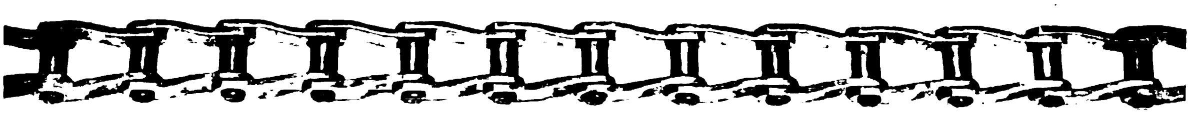


A close up view of the digging and loading end of the Jeffrey Type G Radial Loader. Buckets can readily be adjusted so as to clear the ground or raised to any height to pass over ground obstruction



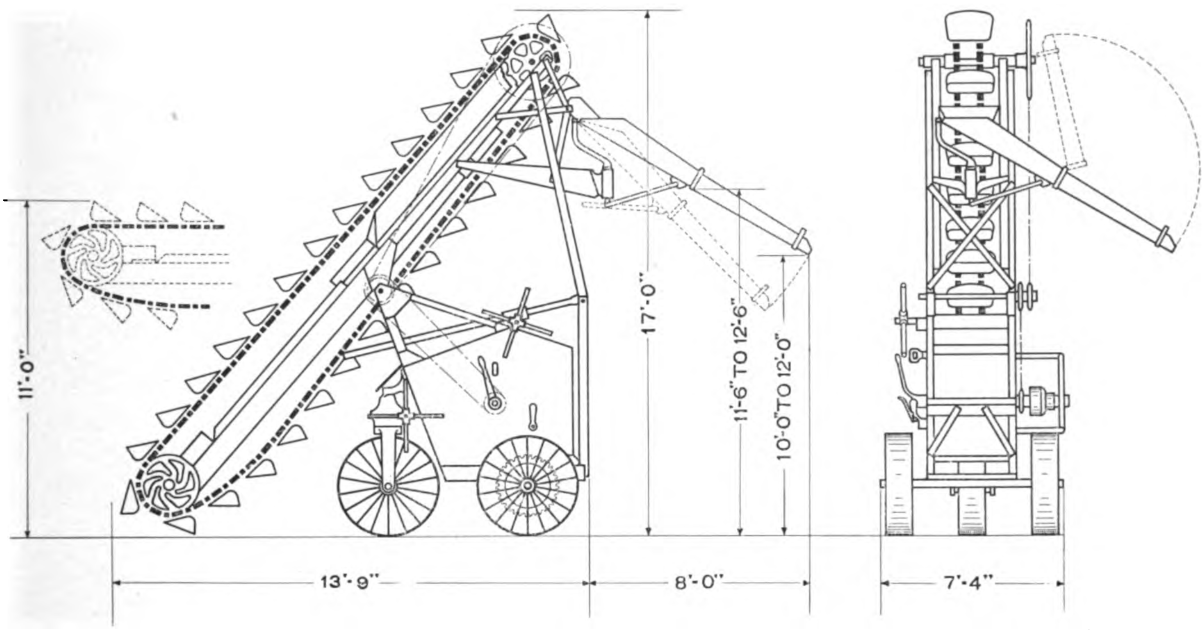
Elevator Chain for carrying buckets.

Two strands of No. 102B Standard Square Shank Pin Hercules Chain of high carbon steel side bars and malleable block links, with riveted pin of 5/8″ diameter, are used on the Loader elevator for carrying the buckets.



Steel Thimble Roller Chain used for driving elevator.

Radial Loader—Type G



General Specifications

Guarantee—All materials and workmanship guaranteed. Defective parts will be replaced free of charge f. o. b. Columbus.

Capacity—1½ to 2 cubic yards per minute. Will load crushed stone maximum size pieces through 3½ inch ring. Maximum size coal 8-inch lumps.

Elevator Chain—Two strands of Jeffrey No. 102-B Square Shank Pin Hercules Chain with ⅝-inch diameter high carbon steel pins.

Buckets—18-inch x 12-inch high back heavy malleable iron buckets fitted with renewable digger edge steel teeth riveted on front lip and ends.

Clutches—Multiple disc type friction clutches for both elevator and self-propelling mechanism. May be operated simultaneously or independently of each other.

Wheels—All wheels 36-inch diameter by 10-inch face. Driving wheels fitted with roughing cleats.

Differential—Driving axle fitted with differential which allows the machine to turn sharp corners, same principle as is applied to an automobile.

Self-Propelling Device—Consisting of cut steel gears two speeds forward and two speeds reverse. Fast speed for traveling from pile to pile and slow speed for feeding into the material. Operated independently of elevator clutch.

Three Wheel Support—Three large wheels make a three point support—rigid under all conditions of ground.

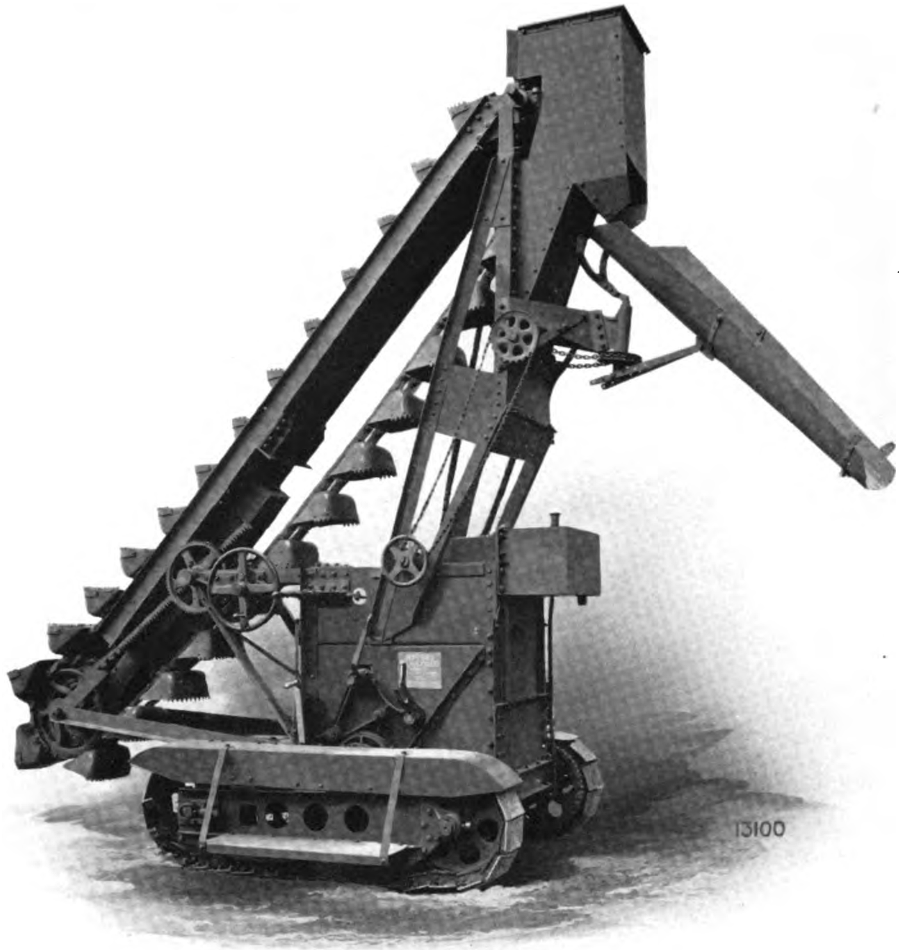
Steering Device—Steering wheel may be turned through a large angle, hence machine will turn readily in a small space or may be made to travel in any desired direction. This saves much time in working in close quarters.

Drive—Electric Motor or Gasoline Engine.

Shipping Weight—Approximately 8500 lbs.

Shipped completely assembled ready to operate.

Tanktred Type Loader



Jeffrey Tanktred Type Loader

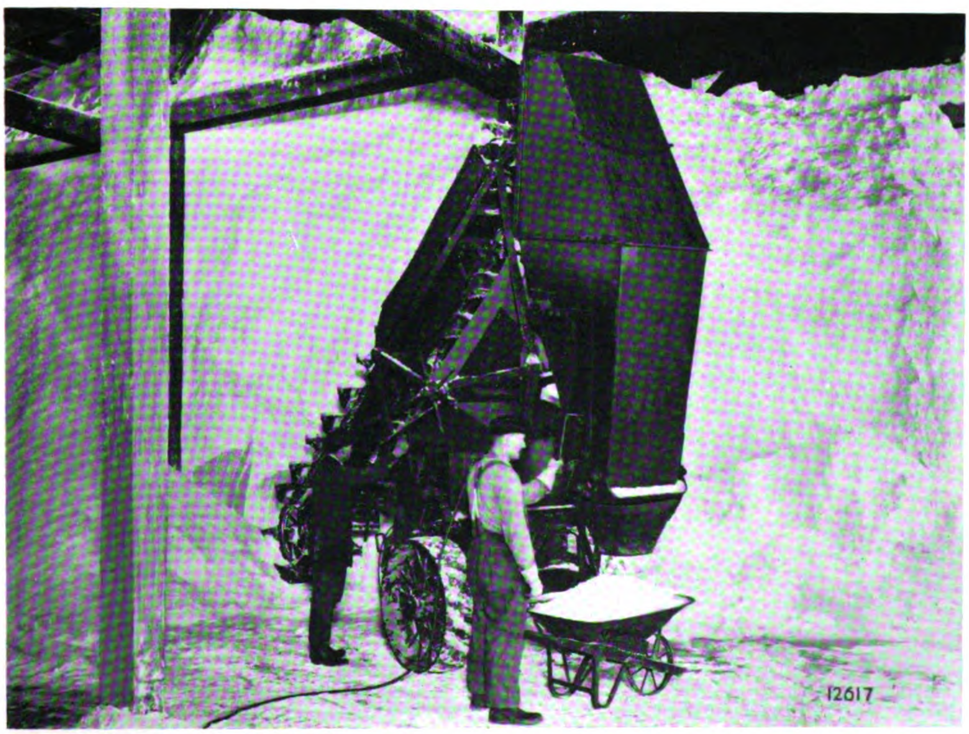
THE Jeffrey TANKTRED Loader represents the highest type of mechanical loader designed for general work, uninterrupted service and long life. While similar in design to the type "G" on previous pages, the Tanktred Loader is particularly fitted for service where the ground is soft, rough or uneven.

Detail information upon request.

The view at the left shows a Jeffrey Tanktred Type Loader handling sand at the rate of 1½ to 2 cubic yards per minute.

Digger and Loader—Type G

Jeffrey Type "G" Digger and Loader under-cutting hard Acid Phosphate. This machine, while embodying the same features as the Type "G" Machine illustrated on previous pages, is especially designed for the digging and loading of Fertilizer, Acid Phosphate, Salt, etc.



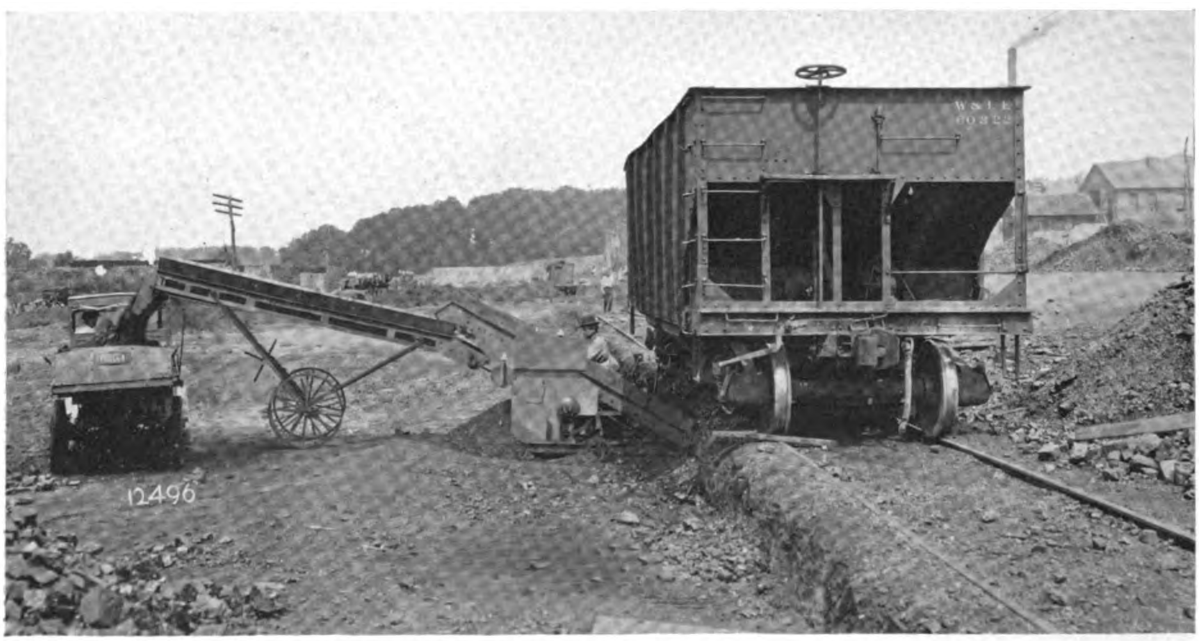
Digging and Loading Salt with the Type "G" Machine. The Digger Tools spaced at intervals to the buckets, loosen the material so that it is readily and easily picked up by the toothed edge buckets.

For Detailed Information on Type G Digger and Loader, see Fertilizer Section, pages 142 to 146.

Portable Car Unloader

Discharge end of the Portable Car Unloader, showing how it loads trucks in a few minutes time.

THE Jeffrey Portable Car Unloader is designed to unload coal from hopper bottom railroad cars directly into motor trucks or to storage pile. It can be placed between rails and car hopper doors or where a permanent arrangement is desired the Unloader can be set under the rails as shown in the lower illustration. Capacity—30 or more tons per hour, handling either Anthracite or Bituminous Run-of-mine Coal.



Portable Car Unloader

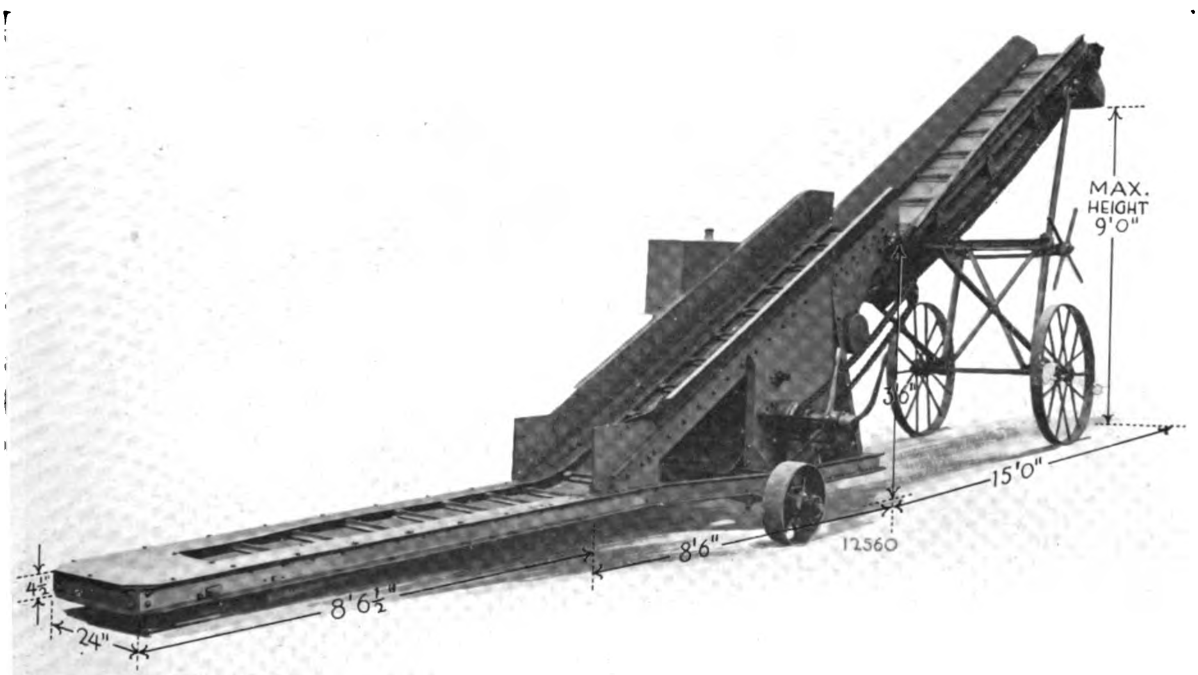
Jeffrey Portable Car Unloader delivering coal to storage pile by means of a separate Jeffrey Portable Belt Conveyor, shown on following page.

RETAIL Coal Yards and small manufacturing plants which receive large quantities of coal in hopper bottom railroad cars will find the Jeffrey Portable Car Unloader a great factor in reducing unloading costs and eliminating demurrage charges.

The discharge end of the auxiliary conveyor can be raised or lowered to suit conditions as shown by illustration below.

Only one man is required to operate the Portable Car Unloader, all operating levers being conveniently located on one side of the machine.

Power is supplied by a 15 H. P., 4 cylinder gasoline engine, or an electric motor if desired.



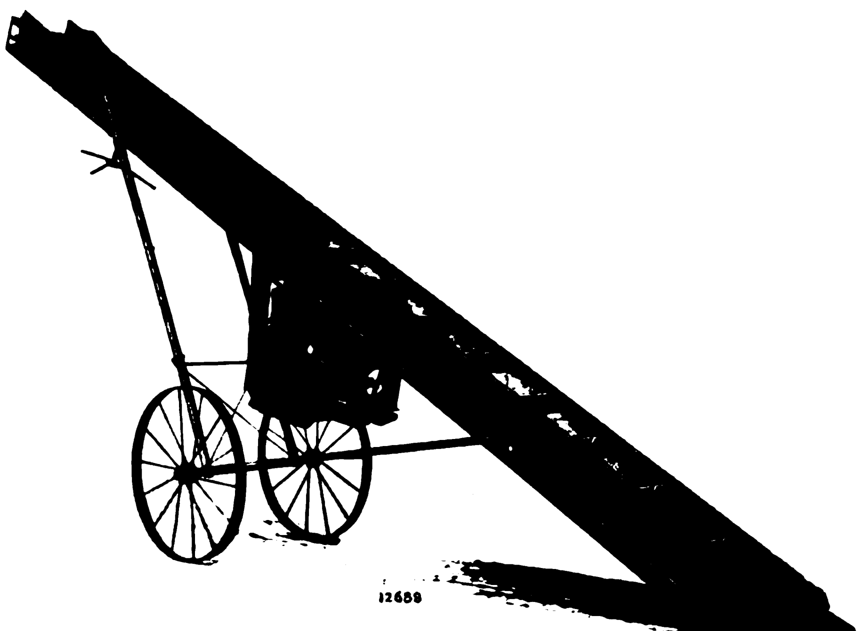
Dimensions of the Jeffrey Portable Car Unloader with Auxiliary Conveyor.

Length overall............................32'-0½" Width of Conveyor......................24" Maximum height of Discharge....9'-0"

Portable Belt Conveyor

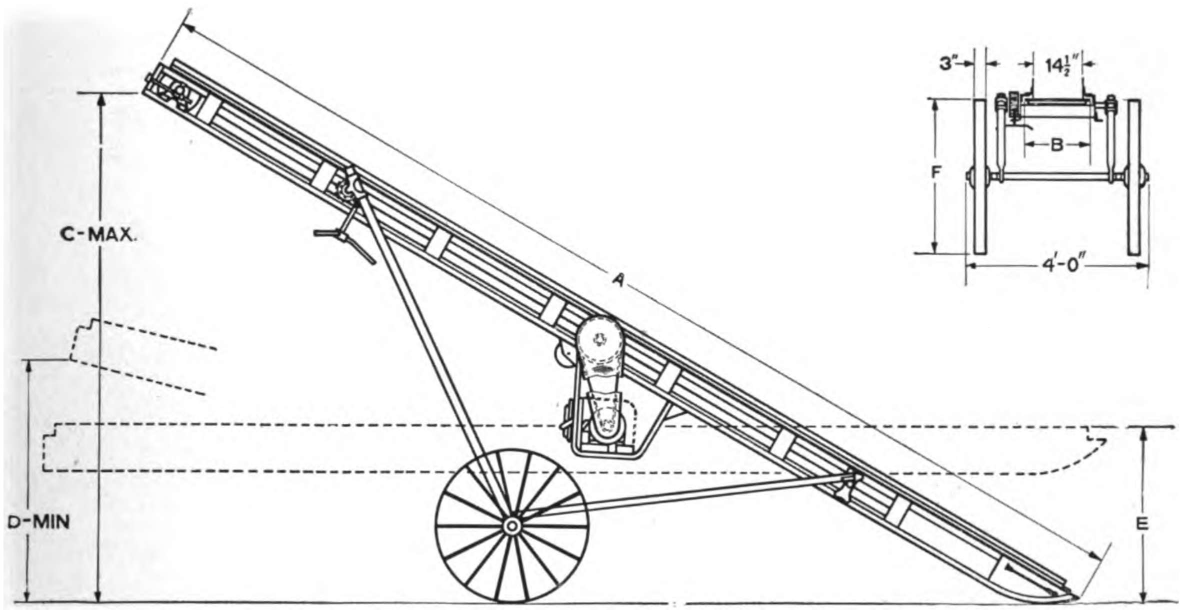
Handling coal from ground storage to motor truck with the Jeffrey Portable Belt Conveyor

THE Jeffrey Portable Belt Conveyor is a light and inexpensive machine designed particularly for service where large quantities of loose materials such as Coal, Crushed Stone, etc., are stored and reclaimed, such as found about industrial plants, power houses, coal yards, building supply yards, etc. This conveyor can also be used in connection with the Portable Car Unloader for delivering to storage pile, as illustrated on preceding page.



The Portable Belt Conveyor is made in lengths of 18′, 24′ and 30′ and driven by either gasoline engine or electric motor

Portable Belt Conveyor



Specifications

Capacity—The capacity of the conveyor depends so much on the personal equation of the men who are loading it that it is rather difficult to specify. In general, the capacity varies from 20 to 50 tons per hour, depending upon the kind of material handled and the method used in loading the conveyor. As a rule, it will handle all that two men can shovel, or rake onto it.

Range of Service—This machine is designed to handle crushed stone, sand, gravel, coal, coke, cinders, etc., also brick, tile, and small packages, boxes and many other classes of materials.

Frame—A light but strong and durable steel truss made of steel angles, plates and rods, form the constructive features. Skirt boards protect the edges of the belt.

Belt—The best quality conveyor belt of 3 ply which gives flexibility when passing over the small pulleys is used on the Jeffrey Portable Belt Conveyor. A $\frac{1}{16}$" rubber cover protects canvas from wear. Lifting blades are riveted to the belt at intervals to enable conveyor to carry at steep angle.

Carrying Rollers—The carrying belt is supported by numerous self-oiling rollers made of steel tubing with bronze bushings securely fitted in each end and bored for through steel spindle. The roller is packed with cup grease, which is sufficient to lubricate the rollers over an indefinite period. A cleaning idler is provided which keeps the belt free from adhering materials.

Bronze Bushed Bearings—The foot pulley, countershaft-bearing and head-shaft bearing are fitted with renewable phosphor bronze bushings and grease oiled to keep out the grit and dirt.

Drive—A high speed steel chain is used from the motor to countershaft, running on cut tooth sprockets, while a detachable chain drives from countershaft to head-shaft. Extra links for both chains are furnished with each machine.

Shipped Assembled—Shipment of Jeffrey Portable Belt Conveyor is made assembled, ready to operate.

Number of Conveyor	Dimensions						Weight—Lbs.	
	A Length of Conveyor	B Width of Belt	C	D	E	F	With Gasoline Engine	With Electric Motor
1	18	16	8'-6"	5'	3'-6"	2'-0"	1450	1275
2	24	16	12'-0"	6'	4'-3"	3'-6"	1680	1500
3	30	16	14'-6"	6'-6"	4'-3"	3'-6"	2000	1825

Portable Belt Conveyor

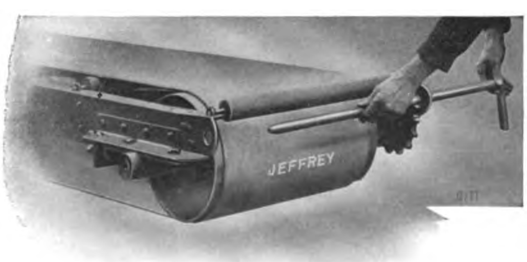
Jeffrey Portable Belt Conveyor carrying boxes from warehouse to wharf.

THE Portable Belt Conveyor provides one of the best means of handling materials in boxes, bags, and packages in such places as warehouses, loading platforms to cars, and on docks.

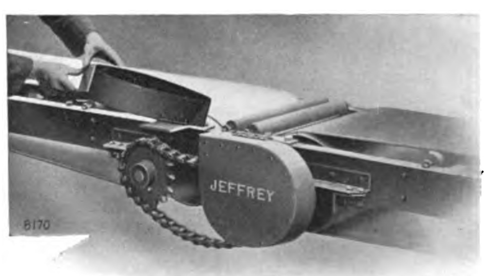
It adapts itself to moderately uneven floors and can be arranged in tandem to carry along a straight line or at various angles dependent upon the size of packages handled.

In the installation shown above the Portable Belt Conveyor, which is built in sections of 20 foot centers each, handles boxes weighing 80 pounds from warehouse storage to wharf at the rate of 1500 per hour.

This type of conveyor reduces handling costs materially since much of the delay incident to the unloading of hand trucks is avoided, and less labor is required to maintain the average capacity.

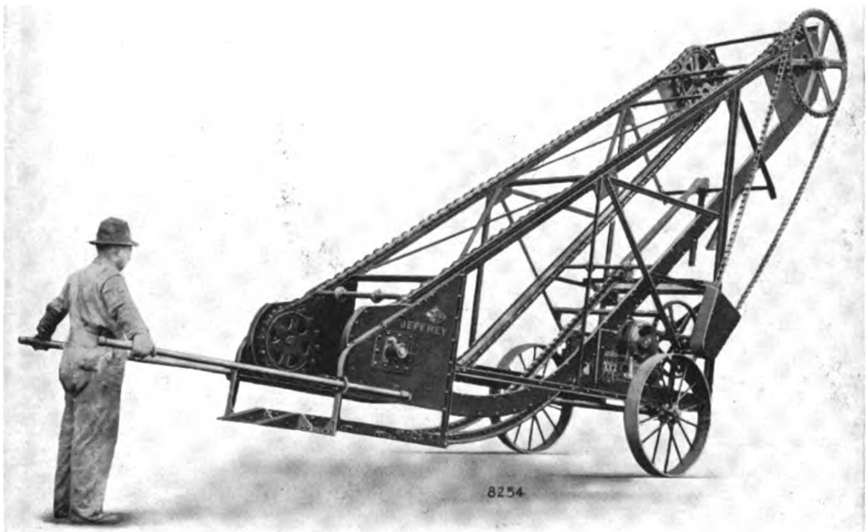


This illustration shows how simple it is to connect together by means of a pointed bar with pin stops, the various sections of the Portable Belt Conveyor. A large clearance in the connecting holes allows sufficient latitude for quickly connecting up sections.

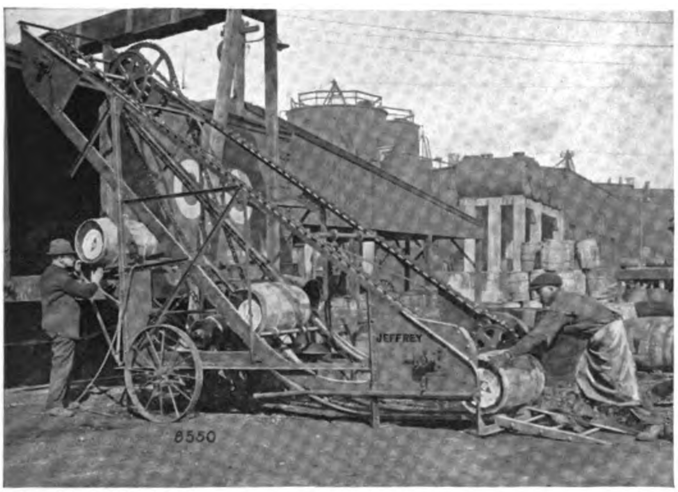


Every part of the Conveyor is readily accessible. By throwing back the hinged guards as indicated in the illustration the connecting chains can be removed without uncoupling. The extra rolls at the end of the sections facilitate the carrying of packages from section to section.

Portable Barrel Loader



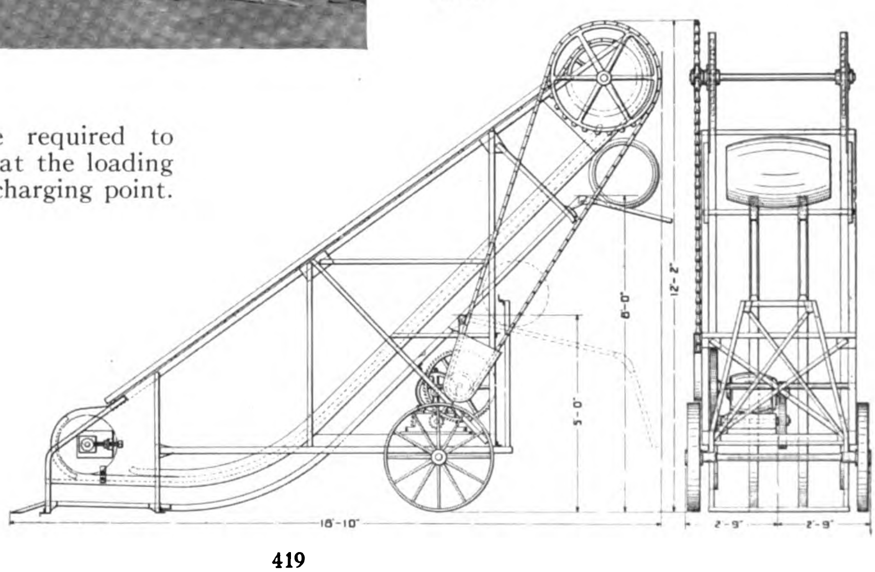
Portable Barrel Loader, designed to handle 500 lb. barrels at the rate of 180 per hour to shipping platform or railroad cars, as shown below.



JEFFREY Portable Barrel Loader is adapted to a wide range of industries, such as Bakeries, Cement Mills, Flour Mills, Glue Factories, Paint Works, Salt Works, Sugar Refineries, Warehouses, Docks and Storage where barrels are handled in large quantities.

The rigid frame is so balanced on 36 inch wheels as to enable one man to move the machine about. After the loader has been put in place for operation the handles used for moving it about can be pushed forward so they are out of the way of the workmen.

Only two men are required to operate the loader; one at the loading point and one at the discharging point.



Dimensioned drawing of Jeffrey Portable Barrel Loader showing barrel in position at the upper discharge point. Dotted lines show barrel in position at lower discharge point.

Portable Bag Stacker

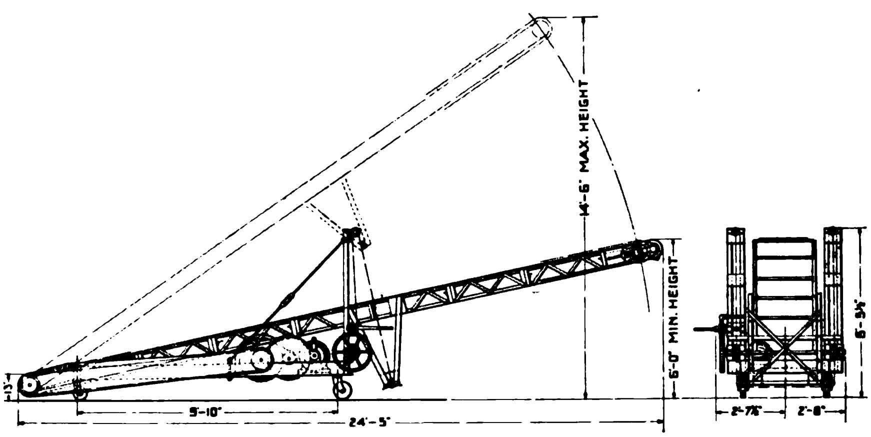
Portable Bag Stacker handling 340 lb. sacks in a warehouse

WAREHOUSES and manufacturers who stack or tier large quantities of bags, boxes, etc., are reducing their handling costs by using the Jeffrey Portable Stacker. This machine is designed to handle miscellaneous freight and is not limited to the stacking of materials alone, as it serves equally well in "breaking down" the piles or for loading onto shipping platforms and into cars.

The whole of a warehouse space is practically made available through the use of a Jeffrey Stacker, by allowing higher piling. This stacker is mounted on castors and the delivery end of the Loading Boom is adjustable to suit conditions, as shown by drawing below.

Portable Stacker

A....14′- 6″ Max. height
B.... 6′- 0″ Min. height
C....24′- 5″
D.... 9′-10″
E....13″
F.... 6′- 5½″
G.... 2′- 7½″
H.... 2′- 8″



Portable Bag Stacker

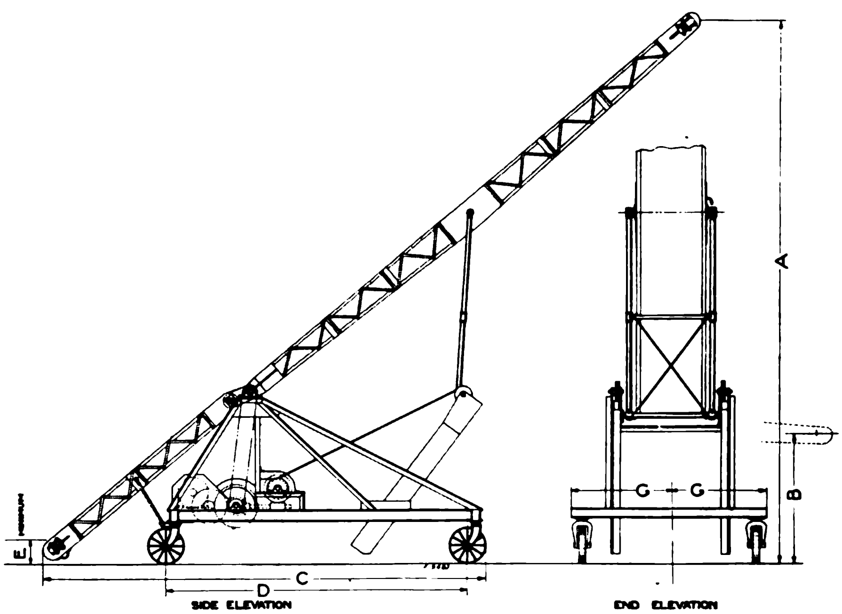
THE Portable Stacker as shown at the left is built for heavy duty and yet is light in weight, each piece of material in it being so placed as to give a maximum of service for the duty to be performed. Being mounted on swivel castors it can be moved about by two men to suit working conditions.

This Stacker is a labor saver on docks and in warehouses. It is readily adjustable to stack bags in piles or to breakdown for reshipping.

Jeffrey Portable Stacker, designed to handle bags, boxes and packages to a height of 30 feet. The lower end remains stationary while the upper end is in any high or low position.

Portable Stacker

A....30′-0″ Highest position of boom
B.... 6′-0″ Lowest position of boom
C....22′- 8″
D....16′- 6″
E....14″ Minimum
G.... 4′- 6″
Weight about 8,000 lbs.

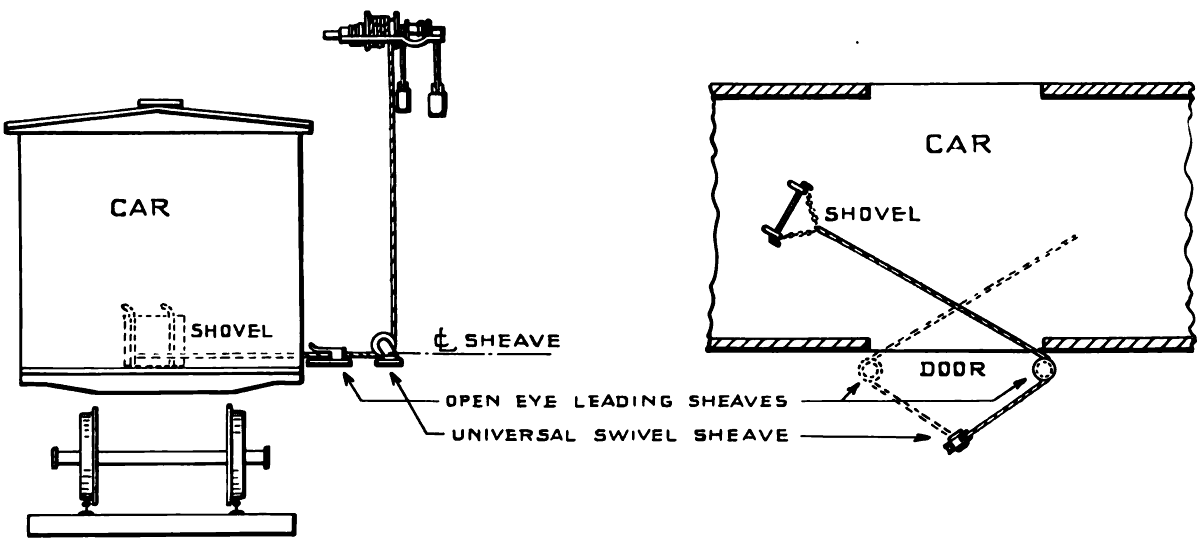


Power Shovel

Jeffrey Power Shovel in operation unloading lime from box car.

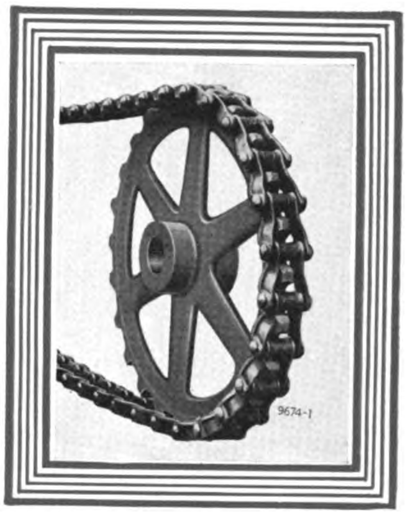
THE Jeffrey Power Shovel is designed for unloading bulk material which is shipped in box cars and is to be unloaded into chutes, hoppers, elevators or conveyors.

The operation of the Power Shovel is very simple and requires but little machinery.



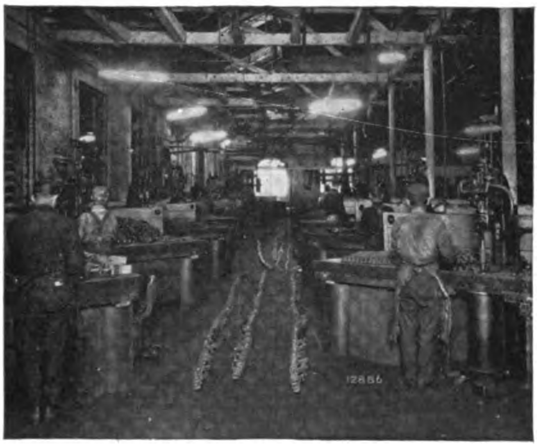
General Arrangement of the Jeffrey Power Shovel, showing the method of operation.

Chains *and* Sprockets

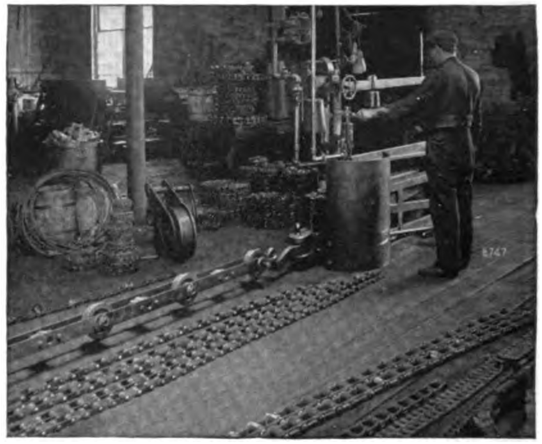


Section 17

Chains and Sprockets



Chain Assembly Room, where Jeffrey Chains are assembled by high class workmen of many years experience



Testing Room, where every Jeffrey Chain is tested at a strength greatly in excess of its average working strength

THE chains listed in this catalog under "Stock Sizes" substantially cover the various types, sizes and attachments required in the solution of the general run of Material Handling problems. These Stock Sizes therefore have a wide range of application and enjoy an active demand.

The "Made On Order" sizes, as their designation implies, have been made to meet the exacting requirements of some particular problem and the demand for same does not justify their being carried in stock by the Manufacturer. It is therefore suggested that users of these special sizes sufficiently anticipate their requirements to avoid unnecessary delay.

Jeffrey Engineers and Metallurgists are constantly striving to improve the design and quality of Jeffrey chains but at the same time preserving the interchangeability feature which is so essential in products of this nature. Jeffrey chains are of a Balanced Construction. They are designed to equally withstand the stresses of the several mechanical forces to which they are subjected, such as, tension in the Side Bars, Bending and Shearing of the Pins and Bushings, Fixed Bearing of the pins in the Side Bars and Wearing Bearing between the pins and their bearings. As a result of this Balanced Construction they are not burdened with an excess of metal which is useless dead weight.

"Stock" sizes are usually carried in stock for prompt shipment of reasonable requirements, and when ordered, the exact amount specified is furnished.

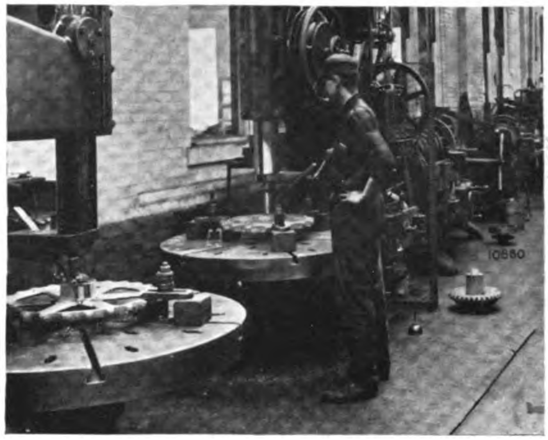
Either cataloged "Made On order" sizes or "Odd" sizes not cataloged are only made upon order. To obtain the specified amounts of correct parts it is necessary to make a slight excess to cover normal manufacturing hazards and rejections in process. Should the exact amount specified result, this only will be shipped to the customer. However, because of the special nature of "Made On Order" and "Odd" sizes, the amount of the over-run will be shipped and invoiced to the customer. The maximum amount of the over-run for malleable chains and other cast parts will be limited to 10%, and for punched steel chains, etc., to 5%. No more than these percentages will be invoiced.

Where a "Made On Order" chain attachment is interspersed with a "Stock" size or style, the specified amount of "Stock" material only will be shipped, but the amount of "Made On Order" or "Odd" attachments manufactured to cover the order will be shipped loose. These loose parts will not exceed the proper maximum allowable percentage of over-run.

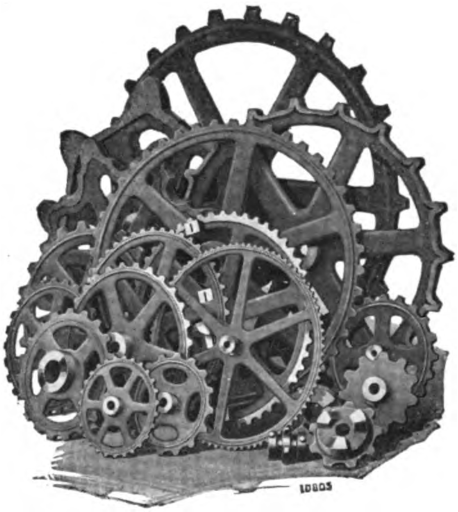
Prompt shipments of Standard Chain from Stock

Chains and Sprockets

Section of Foundry showing how Jeffrey Sprocket Wheels are cast.



Machine Room where hubs of Sprockets are bored and faced.



JEFFREY Sprocket Wheels are made in various kinds and sizes to meet every service requirement. The careful attention and inspection employed in their manufacture, as to boring, facing and keyseating, means that all wheels when keyed in place will properly fit their shafts, and will also revolve true and free from wobble.

In ordinary service covering the greater number of cases a good grade of cast iron has been found satisfactory. However, where the service is severe, especially on small, fast running sprockets, chilling the rim and teeth adds greatly to the wearing qualities.

In cases where not only wear but heavy shock in driving is encountered, it is common practice to cast the sprockets in steel, thereby retaining the high wearing quality while more than doubling the strength.

"Chilled Rim" Sprocket Wheels
Hardened by The J-CO Process

Unless otherwise ordered, Jeffrey Sprocket Wheels are made of high-grade refined Cast Iron. Sprockets which can be furnished with chilled teeth are marked with (*).

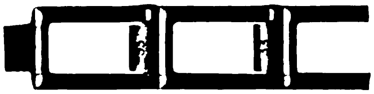
The J-CO process of casting renders the rim and teeth of the sprockets extremely hard and flint like, to a depth of about 3/8 inch. The wearing surface is exceptionally smooth—while an after treatment adds toughness and durability to the whole wheel.

These Wheels are especially adapted to severe service such as handling materials in Cement Mills; Phosphates, Crushed Stone, Ashes, Sand, Gravel and other abrasive materials.

Note the whitened surface showing Depth of Hardened Rim

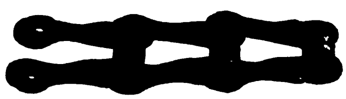
Chains and Sprockets

Types of Chains—General Index and Service Application.


Detachable Link

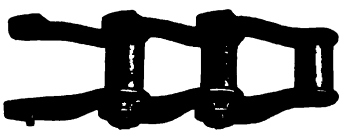
Detachable Link Chain—

A general service chain for drives of ordinary uniform service and for elevators and conveyors in non-gritty materials or in slightly gritty materials where partially protected—also packages, barrels, boxes, etc. See also page 431. Use Carried in Stock Sizes and Attachments, pages 432, 434 and 435.


Mey-Oborn

Mey-Oborn Chain—

A Malleable Chain suited to the same and somewhat more severe service than the Detachable Link Chain; especially when put up with riveted pins. Works over the same sprockets as the Detachable Chain. Chain and Attachments made on order only. See page 462.


Reliance

Reliance Chain—

An intermediate step between a riveted Mey-Oborn and a Hercules Chain. It is well adapted to elevator service of moderate speeds under semi-gritty conditions and is popular as a drive chain. Works over many of the Detachable and Mey-Oborn Sprockets. Use Stock Sizes, pages 464 and 465.

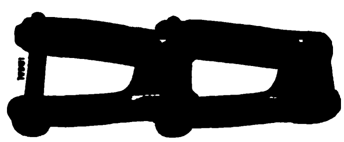

Hercules (Square Shank Pin)

Hercules Square Shank Pin Chain—

An excellent hard service chain. See page 470. It is fitted to all kinds of heavy duty, especially single and double strand elevators in gritty, dry or damp materials. In the small sizes it makes a rugged drive chain. Use Stock Sizes, page 471.

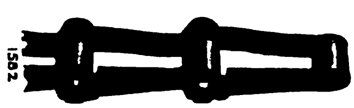
Phosphor Bronze Bushed Chain—

A chain similar in design to the Hercules but having renewable hard bronze bushings. Especially designed to better resist the internal wear of corrosively gritty or acid conditions. See page 527.


Peerless

Peerless Chain—

A chain fitted to the same service as the Reliance Chain, but possessing the added features of a hardened pin and a hardened renewable steel bushing having an internal and an external wearing surface. Use Carried in Stock Sizes and Attachments, page 477.


Atlas

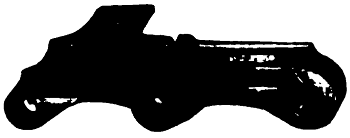
Atlas Chain—

This chain while having the general external appearance of the Peerless Chain is in its working features of practically the Hercules construction and is extensively used in semi or moderately gritty elevator service. Use Carried in Stock Sizes and Attachments, page 481.


Malleable Roller

Malleable Roller Chain—

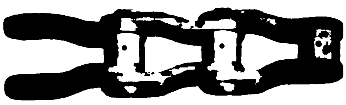
The least expensive of the Roller Chains and well adapted to wood and steel Apron Conveyors; also Elevators and Conveyors handling non-adhesive, non-gritty bulk materials. (Page 483). Many of the shorter pitches make excellent drive chains. Note chain construction, page 483. Use Carried in Stock Sizes and Attachments, page 484.


Roller Carrier

Roller Carrier Chain—

As its name indicates this chain has been designed especially for the horizontal transfer of merchandise either directly upon two or more strands of the plain chain or upon wood slats attached to the chain. Made on order only, page 489.

Types of Chains—General Index and Service Application



Steel Thimble Roller

Steel Thimble Roller Chain—

The highest type of Jeffrey Chains. See page 494. The smaller sizes make excellent drive chains while the larger sizes are especially adapted to aprons, elevators and conveyors of heavy duty. Not to be used in direct contact with sticky or gritty materials. Use Carried in Stock Sizes, page 496.

Vulcan Chain

Vulcan Chain—

This style of Chain is of the simplest construction of all steel side bar types and gives excellent service in ordinary single and double strand conveyors in non-gritty or semi-gritty materials. Use Stock Sizes, page 504.

Malleable Roller Haul-up Chain

Malleable Roller Haul-Up Chain—

An extra strong Malleable Roller Chain with riveted renewable spurs. It is well-fitted to regular mill haul-ups of ordinary service shocks. Illustrated on page 489.

Steel Drag Chain

Steel Drag Chain—

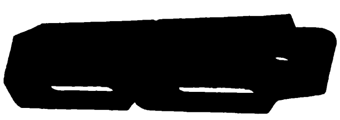
This is simply a widened-out Vulcan Chain with a self-contained cross-bar acting as a scraper. Used for medium capacities of non or semi-gritty bulk materials where space for conveyor is limited. See page 514.

10997

Malleable Drag Chain

Malleable Drag Chain—

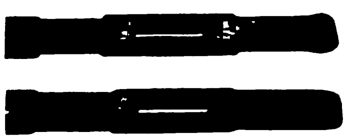
Of the Reliance Type, by reason of its long pin bearing in its all malleable links is especially fitted for medium capacities of gritty materials. See page 512 and use the Carried in Stock Sizes.



Transfer Chain

Transfer Chain—

A chain extensively used in Stock Rooms and Warehouses. Two or more parallel strands are run in grooves placed in floor or platform for transfer of boxes, packages, bundles, etc. Use the Stock Sizes, page 516.



Climax Chains
(Drop Forged and Strap Types)

Climax Chains (Drop Forged and Strap Types)

A rugged steel chain built in drop forged and welded steel types for heavy duty elevator and scraper conveyor service in gritty, semi-gritty and garbage acid conditions. See page 521.

Flat and Round Steel Link Chain

Flat and Round Steel Link Chain—

An all steel welded chain fitted to general elevator and conveyor service under the following conditions: non-gritty; partially protected dry semi-gritty; or liquidly semi-gritty materials, especially where corrosion has given trouble in the use of riveted chains. Use Carried in Stock Sizes, page 517.

Long Link Coil Chain

Long Link Coil Chain—

This chain is extensively used in the Logging and Lumber industries. Also used in handling of slimes or in other liquidly semi-gritty conditions where materials cannot lodge in the joints of the chain. Can be readily repaired by any blacksmith. Use Carried in Stock Sizes, page 522.

Chains and Sprockets

Giving Proper Attention and Care to Chains Insures Dependability and Longer Life.

MUCH of the life of a chain depends upon its fit and upon the direction in which it works on its sprockets.

In order to secure the proper fit and action of chain those Jeffrey Sprockets which impart motion to the chain are made "Driving" while those to which the chain imparts motion are "Driven". Figure 1 represents the proper action of the chain on a "Driving" sprocket, while Figure 2 shows the proper action on a "Driven" sprocket. In both cases whether it be the "Driving" or "Driven" sprocket the roller or barrel of the chain is in contact only with that tooth at the point where the chain leaves the sprocket as at X Fig. 1 and Y Fig. 2.

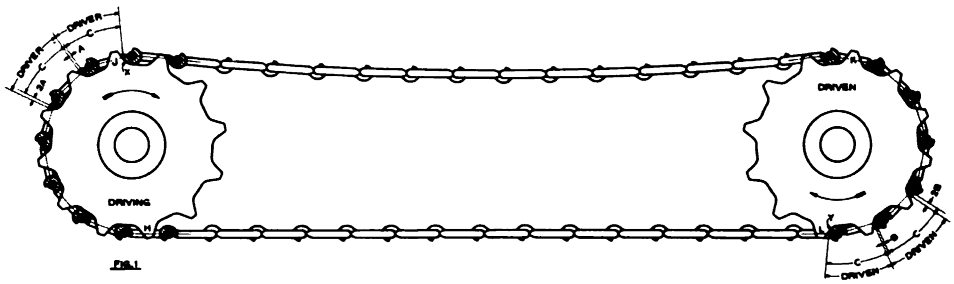


FIG. 1

FIG. 2

In the driving sprocket the engaged link of the chain upon leaving the driving tooth permits the following tooth to become firmly seated against its roller or barrel of the chain. By the slight increment "A" the distance "Driver" from the face of the consecutive teeth is greater than the chain pitch "C". This makes the diameter of the driving sprocket larger than a theoretical perfect wheel on which every roller or barrel of the chain around the wheel would be engaged with a tooth.

The action of the driven sprocket is similar except reversed. The distance "Driven" from the face of consecutive teeth is less by an amount "B" than the pitch of the chain "C," thereby making the driven wheel slightly smaller than the theoretical perfect wheel.

This driving and driven action always permits of a clearance between the entering tooth and the oncoming link of the chain, and the chain coming gradually in contact with the tooth as it takes up the load. Jeffrey Chains are subjected to a pull of twice the normal driving load. This takes out the initial stretch in the chain and insures its proper driving and driven action.

In fitting chains to sprockets the chain should never be tightened to that initial or no load tension, which would cause the sprocket or chain to drive by traction rather than by the proper action of the teeth as above described.

The proper direction in which a chain works on its sprockets is that direction which causes the least amount of wear. Wherever possible the wear between the barrel of the chain and the sprocket tooth should be eliminated. All turning or rubbing should take place between the pin and the inside of the barrel or bushing.

There is no choice in the direction of travel of chains of the Hercules, Vulcan, Flat and Round, Coil, and straight bar Steel Thimble Roller types, as they run equally well in either direction.

The offset type of chains as the Detachable, Reliance, Peerless, Malleable Roller and offset bar Steel Thimble Roller have a right and wrong direction of travel to obtain the least amount of wear.

In the offset type of chain let us consider the bar or open end of the link traveling first. The chain coming onto the driving sprocket at "D", Figure 3 the turning takes place between the pin and inside of the barrel, which is good. At "E" the chain is about to leave the wheel and the tooth at that point is engaged with the barrel of the chain and is in the act of driving so we have a maximum pressure applied to engaged surfaces. The forward end of the link leaves the rim of the sprocket and takes itself in the direction of the chain, thus causing a grinding action be-

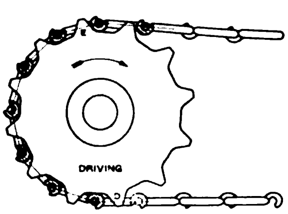


FIG. 3

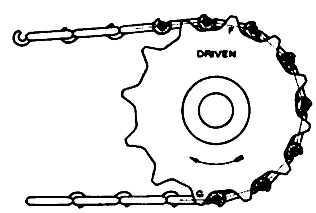


FIG. 4

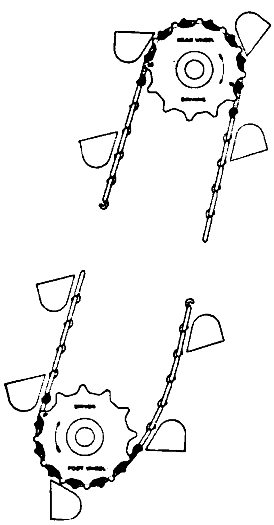


Fig. 5

tween the barrel of the chain and the sprocket tooth. This action is bad. The chain coming onto the driven sprocket at "F" Figure 4, drops into place with good action, turning taking place only between the pin and inside of barrel. At "G" the action is bad as we have grinding action between the barrel of the chain in contact with a tooth.

When running the barrel or hook end of the link first, the action at "H" Figure 1 is bad, but because the barrel is not in contact with a tooth the wear is slight as the rear end of the link seats itself on the sprocket. At "J", the point of maximum pressure, the action is good, turning taking place only between pin and inside of barrel. The action at "K" Figure 2 is bad but for the reason that it is on the slack side of the chain, and there is little pressure between barrel of chain and sprocket, it causes little wear. We have good action at "L" where the chain leaves the driven sprocket with turning only between the pin and inside of barrel.

By running the bar or open end first there are two bad wearing points and by running the barrel or hook end first there is but one bad point and that causes little wear. **Therefore, for all drives and all horizontal conveyors run the barrel or hook end first.** Also for vertical or inclined elevators where a drive is taken from the elevator foot shaft.

In the case of vertical or inclined elevators where the foot shaft runs idle the chain should run with the bar or open end first. By the accompanying drawing, and remembering that a driven wheel is used for a driver on elevators one can readily see that if the barrel or hook end traveled first the action at "M" on the driving sprocket Figure 5 would be very bad, but by having the bar or open end first, this wearing action is eliminated. While we have turning between the barrel of the chain and the sprocket at "N" little wear is caused as the barrel is not in contact with the tooth and little pressure is applied to the surfaces in contact.

Perfect diameter sprockets are often used for the elevator drive sprocket because the load is distributed to the many points of contact between chain and sprockets. The grinding action then takes place at "S" Figure 6 with little pressure applied to the engaged surfaces, resulting in little wear. At "R" the turning takes blace petween pin and inside of chain barrel under little tension, resulting in good action. In both of the above cases we have favored the driving or Head Wheel, for the reason that, although there is seemingly bad action at "P" Figure 5, it is good as there is no pressure applied to the surfaces in contact, the sprocket being merely an idler wheel.

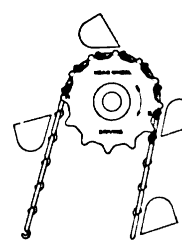


Fig. 6

The same condition exists on inclined conveyors where the angle of inclination is such that the return strand has a decided tendancy to impart power rather than to require it.

Therefore, always run bar or open end first for all vertical and inclined elevators and inclined conveyors (as defined above) where the foot shaft runs idle.

To Increase or Decrease Working Strength of Any Jeffrey Chains Relative to Speeds

Example—No. 102 Hercules Chain (Page 471) is listed at 2500 lbs. for 150 feet speed per minute. To obtain the working strength at 100 feet speed, multiply the working strength at 150 feet by the 1.05 Multiplier opposite 100 feet per minute in the table below. Thus 1.05 times 2500 lbs. is 2625 lbs. working strength at 100 feet speed per minute. For the same chain running at about its maximum speed of 440 feet per minute, the Working Strength will be .71 (from table) times 2500 lbs. or 1775 lbs.

Speed Feet per min.	Multiplier	Speed Feet per min.	Multiplier	Speed Feet per min.	Multiplier	Speed Feet per min.	Multiplier	Speed Feet per min.	Multiplier	Speed Feet per min.	Multiplier	Speed Feet per min.	Multiplier	Speed Feet per min.	Multiplier
20	1.13	120	1.03	220	.93	320	.83	420	.73	520	.63	620	.53	720	.43
40	1.11	140	1.01	240	.91	340	.81	440	.71	540	.61	640	.51	740	.41
60	1.09	160	.99	260	.89	360	.79	460	.69	560	.59	660	.49	760	.39
80	1.07	180	.97	280	.87	380	.77	480	.67	580	.57	680	.47	780	.37
100	1.05	200	.95	300	.85	400	.75	500	.65	600	.55	700	.45	800	.35

Before applying the above Table note the Limitation of Maximum and especially the **Economical Speeds** given in tabulated list of the chain used. Note also the final reduction of Working Strengths when chain is used in very **hard service.**

To obtain a chain for a given Horse Power and Speed: Multiply the number of horse power by 33000 and divide by the speed in feet per minute. The result will be the working strength of a chain corresponding to that speed.

Detachable Link Chains

Round Bar Type

BY a redistribution of metal in the Jeffrey Detachable chain, it is possible to increase the strength approximately 20% without any increase in weight.

Two sizes of this new type Round Bar chain are shown above.

The general dimensions of this new type are approximately the same as given on the following pages for the Standard type. For the new working strength add 20% to that given in the tables at the specified speed. The maximum speed remaining the same.

Sizes furnished on application.

At the right is given a comparison of the new Round Bar type with that of the Standard type, showing how the redistribution of metal has been accomplished to produce a link of greater strength, and yet retaining its feature of interchangeability.

Standard Type

Round Bar Type

Detachable Link Chains

Specify our STANDARD STOCK SIZES wherever possible, thereby insuring prompt delivery. See page 432

The illustration at the left shows the type of head used for the smaller sizes, Nos. 25 to 75.

The right hand illustration shows the flanged head characteristic of the larger sizes of Detachable Chain Nos. 77 to 124.

Jeffrey Chains are Interchangeable with other Makes of Standard Link Chains of Corresponding Styles and Numbers

This type of chain is well known and is considered one of the best general service chains on the market; being carefully made in our own foundry of a **high grade malleable iron,** insuring uniform strength, pitch, and surface finish.

How to Use Detachable Link Chains

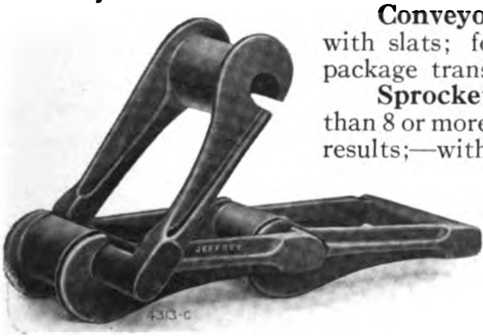
Drives—With uniform speed, under non-gritty conditions without intermittent shocks. See Maximum and Economical Speeds—also page 432.

Support long drives on hard wood guides.

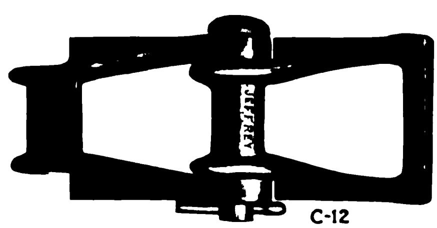
Elevators—for light, non-gritty bulk materials in buckets; also for light package, barrel and tray elevators.

Conveyors—for scrapers in non-gritty materials; for conveyors with slats; for chains in multiple with or without attachments for package transfer, etc.

Sprocket Wheels—over 100 feet per minute travel use not less than 8 or more than 32 teeth for best results;—with 50 teeth as a limit.



Plain Chain

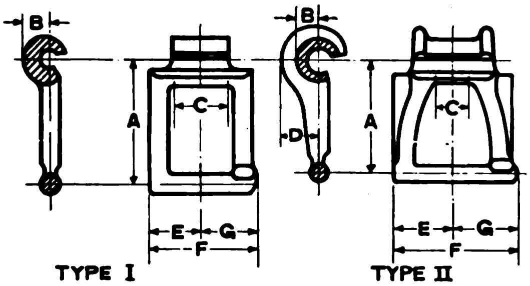


C-12

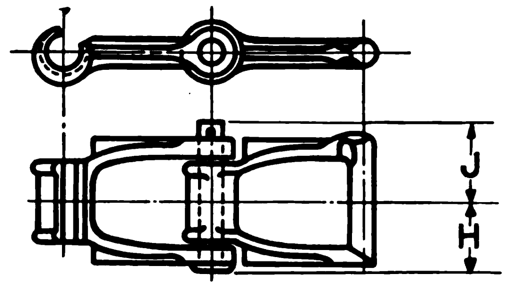
Coupler

Detachable Link Chains

Standard Stock Sizes of Plain Detachable Chain



Plain Chain



Couplers

For List Price—See Price List Bulletin

Chain No.	Pitch Inches A	Approx. Links in 10 Feet	Approx. Weight Per Foot	Type	‡Working Strength—For Speeds in Feet per Minute 150	200	300	400	500	600	700	Plain Chain Dimensions—Inches B	C	D	E	F	G	Couplers Dim.—Inches H	J
25	.902	133	.24	1	120	114	102	90	78	66	54	.203	3/8	......	3/8	25/32	13/32	1/2	5/8
32	1.154	104	.32	1	185	176	157	139	120	102	83	.250	1/2	......	15/32	31/32	1/2	5/8	3/4
33	1.394	86	.32	1	200	190	170	150	130	110	90	.234	1/2	......	1/2	1 1/32	17/32	5/8	25/32
34	1.398	86	.40	1	215	204	183	161	140	118	97	.266	1/2	......	9/16	1 5/32	19/32	3/4	7/8
42	1.375	88	.55	1	250	238	213	188	163	138	113	.281	5/8	......	5/8	1 9/32	21/32	13/16	15/16
45	1.630	74	.52	1	265	252	225	199	172	146	119	.297	11/16	......	5/8	1 5/16	11/16	3/4	7/8
50	1.380	88	.71	1	390	363	275	220	176	143	110	.312	5/8	......	21/32	1 11/32	11/16	13/16	15/16
51	1.155	104	.70	1	315	299	268	237	205	173	142	.359	9/16	......	19/32	1 1/4	21/32	3/4	27/32
52	1.506	80	.80	1	385	366	327	289	250	212	173	.344	5/8	......	3/4	1 17/32	25/32	29/32	1 1/32
55	1.631	74	.70	1	370	352	315	278	241	204	167	.359	11/16	......	21/32	1 13/32	3/4	13/16	15/16
57	2.308	52	.87	1	470	447	400	353	306	259	212	.406	3/4	......	7/8	1 13/16	15/16	1 1/16	1 3/16
62	1.654	73	1.04	1	515	489	438	386	335	283	232	.406	11/16	......	25/32	1 21/32	7/8	31/32	1 1/16
67	2.308	52	1.15	2	555	527	472	416	361	305		.406	11/16	17/32	1	2 1/32	1 1/32	1 9/64	1 1/4
75	2.609	46	1.34	1	670	637	570	503	436	369		.438	15/16	......	1 1/32	2 3/32	1 1/16	1 3/16	1 3/8
77	2.297	52	1.45	2	600	570	510	450	390	330		.359	11/16	39/64	1 1/16	2 7/32	1 5/32	27/32	1 25/32
78	2.609	46	1.86	2	815	774	693	611	530	448		.438	15/16	21/32	1 1/4	2 5/8	1 3/8	1 7/16	1 19/32
83	4.000	30	1.90	2	825	784	701	619	536			.469	1 1/16	11/16	1 1/2	3 3/32	1 19/32	1 25/32	1 15/16
85	4.000	30	2.47	2	1265	1202	1075	949	822			.484	1 7/8	13/16	2 1/16	4 7/32	2 5/32	2 3/16	2 5/16
*88	2.609	46	2.30	2	960	912	816	720	624	528		.438	15/16	53/64	1 5/16	2 3/4	1 7/16	1 15/32	1 5/8
95	3.967	30	2.90	2	1450	1378	1233	1088	943	Heavy Line Indicates Speed Limits		.516	1 7/8	1	2 1/16	4 1/4	2 3/16	2 5/32	2 9/32
*103	3.075	39	4.00	2	1600	1520	1360	1200	1040			.609	1 1/8	1	1 9/16	3 9/32	1 23/32	1 1/16	2 1/16
108	4.720	25½	3.48	2	1650	1568	1403	1238				.563	2 3/8	1	2 13/32	4 15/16	2 17/32	2 9/16	2 11/16
114	3.250	37	5.25	2	1835	1743	1560	1376	1193	Economical Speeds not over half of these speed limits		.813	1 1/8	1 11/64	1 5/8	3 15/32	1 27/32	1 15/16	2 1/8
*124	4.063	30	6.40	2	2115	2009	1798	1586				.859	1 1/4	1 3/8	1 31/32	4 1/16	2 3/32	2 1/4	2 13/32

‡Rough service and shocks, use but half of "Working Strength" in table as speed requires.
*These sizes can be furnished in Manganese Steel—see notes below.
For Proper Direction to run Chains, see pages 428 and 429.

Manganese Steel Detachable Chains

Manganese, because of its hardness and toughness insures a chain high in wear resisting qualities, adapting it to service under gritty conditions, such as the handling of cement clinker, etc.

Made in following sizes with attachments as noted:

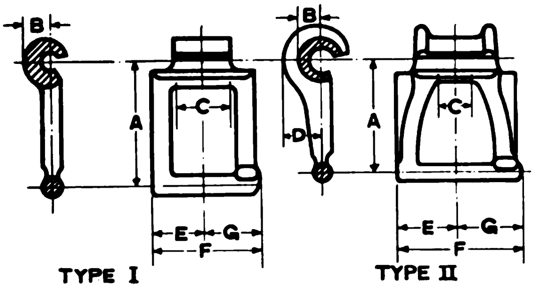
No. 88, Plain Chain and F-2, H-1, H-2 and K-1 Attachments.
No. 103, Plain Chain, Couplers and F-2, G-6 and K-1 Attachments.
No. 124, Plain Chain, Couplers and F-2, G-6 and K-1 Attachments.

General overall dimensions of Chain and Couplers are same as the Malleable Chain given in table above, and for the attachments as indicated on pages 438 to 455.

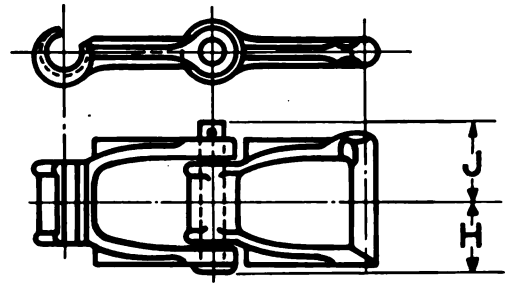
For Manganese sprockets, use those listed for Cast Steel, page 460.

Detachable Link Chains

Made on Order Sizes



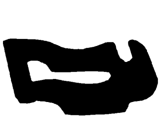
Plain Chain



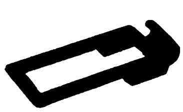
Couplers

For List Price—See Price List Bulletin

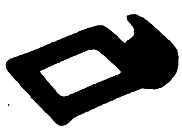
Chain No.	A Pitch Inches	Approx. Links in 10 Feet	Approx. Weight Per Foot	Type	Working Strength at 150 F. P. M.	Average Ultimate Strength	B	C	D	E	F	G	H	J	Max. Speed F.P.M.
23	.649	185	.25	1	77	460	.203	5/16		5/16	21/32	11/32			700
032	.9023	133	.52	2	179	1072	.219	3/8	11/32	9/16	1 5/32	19/32			700
34½	1.154	103	.46	1	250	1500	.281	5/8		17/32	1 1/8	19/32			700
35	1.630	74	.40	1	200	1200	.265	11/16		19/32	1 7/32	5/8	3/4	7/8	700
37 Half Shoe	2.017	60	.38	1	205	1230	.234	11/16		19/32	1 7/32	5/8			700
39–4 Bar	1.593	75	.60	1	367	2200	.312	5/16		7/8	1 3/4	7/8			700
042 Shoe	1.375	88	.65	1	250	1500	.281	11/16		5/8	1 5/16	11/16			700
42 Keeper	1.375	88	.55	1	250	1500	.281	5/8		5/8	1 9/32	21/32			700
43–3 Bar	1.519	79	1.10	1	400	2400	.297	3/4		1 1/4	2 1/2	1 1/4			700
44	1.481	81	.55	1	263	1580	.281	3/4		21/32	1 3/8	23/32			700
45 Keeper	1.630	74	.53	1	267	1600	.297	11/16		5/8	1 5/16	11/16			700
47 Shoe	1.630	74	.55	1	283	1700	.297	11/16		21/32	1 3/8	23/32			700
48	2.0	60	.53	1	277	1660	.297	13/16		23/32	1 1/2	25/32			700
052	1.516	80	.95	1	383	2300	.406	3/4		25/32	1 5/8	27/32			700
52½ Heavy	1.519	79	1.16	1	478	2866	.406	15/16		7/8	1 27/32	31/32			600
055 Corrugated	1.633	74	.84	1	350	2100	.437	11/16		21/32	1 3/8	23/32			700
55 Keeper	1.631	74	.74	1	367	2200	.359	11/16		21/32	1 13/32	3/4			700
56½	1.661	72	1.06	1	408	2450	.391	3/4		13/16	1 23/32	29/32			700
057 Shoe	1.618	74	.80	1	320	1920	.359	11/16		21/32	1 3/8	23/32			700
58	1.60	75	.80	2	375	2250	.312	11/16	15/32	3/4	1 19/32	27/32			700
062	1.654	73	1.30	1	550	3300	.453	7/8		25/32	1 25/32	7/8			600
62 Keeper	1.654	73	1.06	1	517	3100	.406	7/8		25/32	1 25/32	7/8			700
62½	1.654	73	1.03	1	517	3100	.406	7/8		25/32	1 25/32	7/8			600
063	1.509	80	1.26	2	388	2330	.359	11/16	1/2	29/32	1 29/32	1			600
65	2.128	57	.92	1	410	2460	.422	7/8		25/32	1 21/32	7/8			600
66	2.013	60	1.17	1	434	2600	.422	15/16		7/8	1 13/16	15/16	1 1/8	1 1/4	600
072	1.654	73	1.95	2	723	4340	.422	1	11/16	1 1/8	2 5/16	1 3/16			600
72	2.043	59	1.60	1	707	4240	.422	11/16		29/32	1 29/32	1			600
072½	1.674	72	1.95	2	717	4300	.422	15/16	21/32	1 1/16	2 1/4	1 3/16			600
72½	1.654	73	2.00	2	765	4590	.422	7/8	11/16	1 1/8	2 5/16	1 3/16			600
075	2.073	58	1.90	1	765	4590	.531	1 3/8		1 3/32	2 9/32	1 3/16			600
76½	2.073	58	1.50	1	648	3890	.531	15/16		7/8	1 7/8	1			600
88½	2.609	46	3.40	2	1200	7200	.609	1 1/16	15/16	1 11/32	2 27/32	1 1/2			500
93	4.033	30	4.13	2	1250	7500	.578	1 1/8	15/16	1 7/16	3	1 9/16			500
104½	4.520	26	5.00	2	1917	11500	.828	1 5/8	1 5/16	1 13/16	3 3/4	1 15/16	2 1/8	2 1/4	400
122	6.050	20	6.70	2	2500	15000	.859	3	1 13/32	2 13/16	5 7/8	3 1/16	3 1/8	3 1/4	300
E-1	2.035	59	1.50	1	650	3900	.516	15/16		7/8	1 27/32	31/32			600



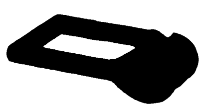
Shoe Type



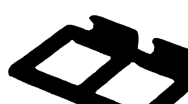
Half Shoe Type



Keeper Type
(Notched Head)



Corrugated Hook Type

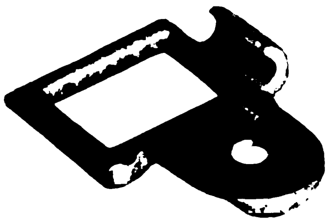


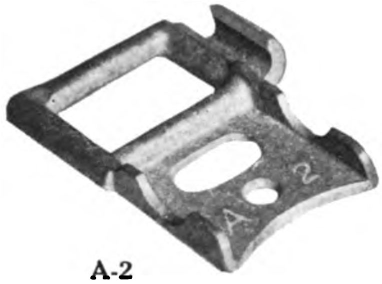
3-Bar Type

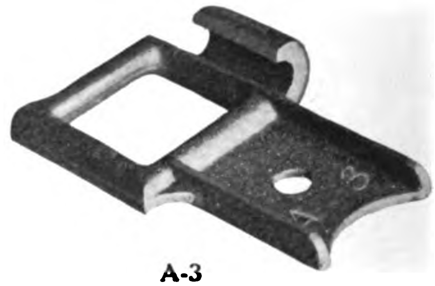
4-Bar Type

Detachable Link Chains

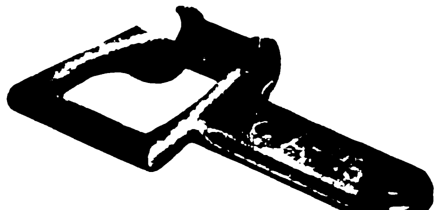
Standard Attachments—Carried In Stock


A-1


A-2


A-3


A-11


A-113


C-1


D-5


E-1


F-2


F-8


G-1


G-6


G-19


H-1


H-2

Detachable Link Chains

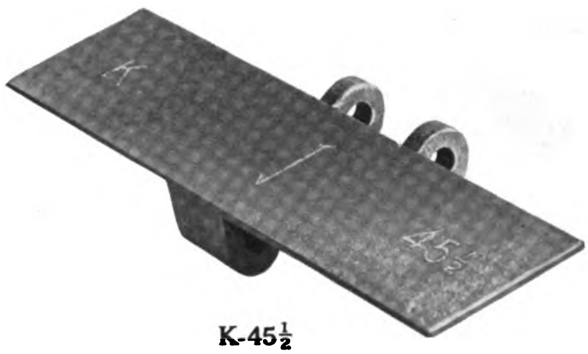
Standard Attachments—Carried In Stock

K-1

K-2

K-5

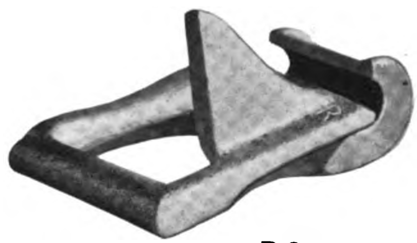
K-40



K-45½

M-3

R-1



R-3

S-1

S-5

Scraper No. 19

Scraper No. 20

Detachable Link Chains

Made on Order Special Sizes

We do not aim to carry attachments shown below in stock but make up special on order only. There should be a delay anticipated in ordering these sizes.

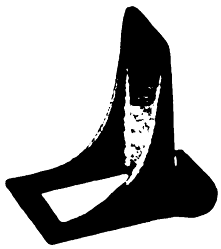
It is requested that customers specify in all cases possible, stock sizes in order to receive better original and replacement delivery.

A-4

A-12

A-14

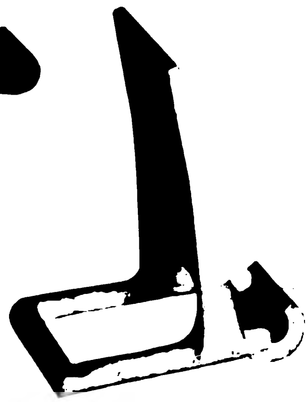
A-37LA



C-2

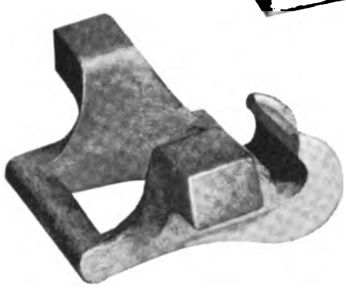
C-8

C-15



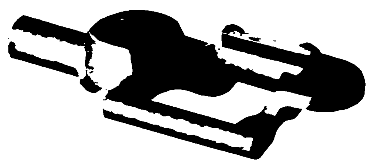
C-27

C-33



DD

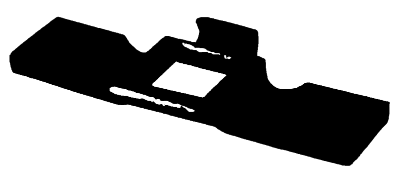
D-3



DK

G-27

K-3



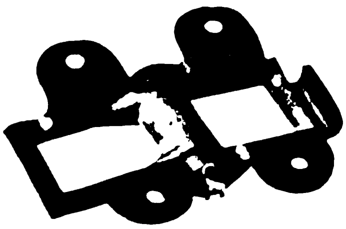
K-3½

Detachable Link Chains

Made on Order Special Sizes

We do not aim to carry attachments shown below in stock but make up special on order only. There should be a delay anticipated in ordering these sizes.

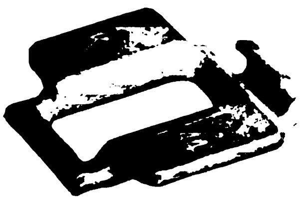
It is requested that customers specify in all cases possible, stock sizes in order to receive better original and replacement delivery.



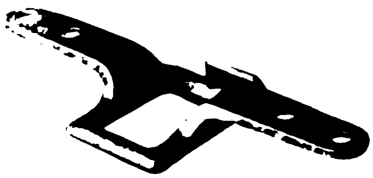
K-1 Coupler

K-6

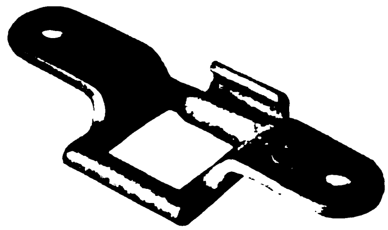
K-9



K-44



K-48



K-52

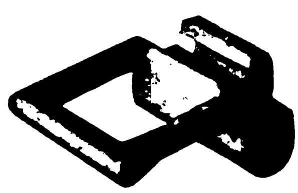
L-2

L-3

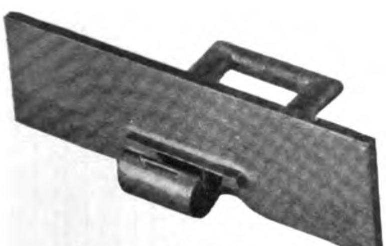
L-14

L-21

M-1



M-17



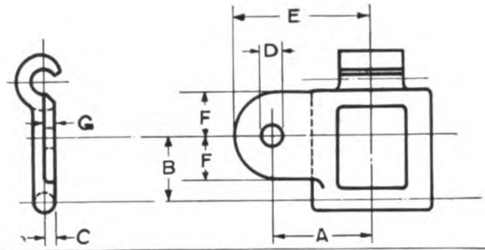
Scraper No. 22

Scraper No. 27

Detachable Link Chains

Attachments

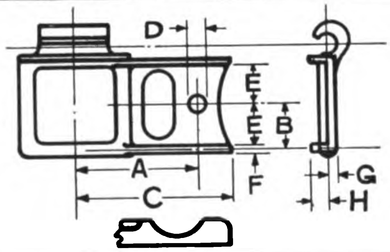
A-1 Attachment



Can be furnished either Right or Left Hand. Left Hand shown

Class	Chain No.	A	B	C	D Diam. of Bolt	Kind of Hole	E	F	G
Carried in Stock Sizes	25	$\frac{7}{8}$	$\frac{7}{16}$	$\frac{3}{32}$	$\frac{3}{16}$	Round—Countersunk	$1\frac{7}{32}$	$\frac{23}{64}$	$\frac{3}{32}$
	32	$\frac{7}{8}$	$\frac{5}{8}$	$\frac{3}{32}$	$\frac{3}{16}$	" "	$1\frac{9}{64}$	$\frac{3}{8}$	$\frac{1}{8}$
	33	$\frac{13}{16}$	$\frac{23}{32}$	$\frac{3}{32}$	$\frac{3}{16}$	" "	$1\frac{3}{16}$	$\frac{27}{64}$	$\frac{3}{32}$
	34	$\frac{15}{16}$	$\frac{11}{16}$	$\frac{3}{32}$	$\frac{1}{4}$	" "	$1\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{8}$
	42	$1\frac{3}{32}$	$\frac{21}{32}$	$\frac{3}{32}$	$\frac{1}{4}$	" "	$1\frac{19}{32}$	$\frac{1}{2}$	$\frac{1}{8}$
	45	$1\frac{1}{8}$	$\frac{7}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	" "	$1\frac{11}{16}$	$\frac{9}{16}$	$\frac{5}{32}$
	52	$1\frac{3}{16}$	$\frac{25}{32}$	$\frac{1}{8}$	$\frac{1}{4}$	" "	$1\frac{21}{32}$	$\frac{33}{64}$	$\frac{1}{8}$
	55	$1\frac{1}{8}$	$\frac{7}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	" "	$1\frac{23}{32}$	$\frac{9}{16}$	$\frac{5}{32}$
	57	$1\frac{1}{2}$	$1\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	Round—Straight	$2\frac{13}{32}$	$\frac{7}{8}$	$\frac{3}{16}$
	62	$1\frac{7}{16}$	$\frac{27}{32}$	$\frac{5}{32}$	$\frac{1}{4}$	Round—Countersunk	$2\frac{3}{32}$	$\frac{5}{8}$	$\frac{3}{16}$
	67	$1\frac{9}{16}$	$1\frac{1}{4}$	$\frac{3}{16}$	$\frac{1}{4}$	Round—Straight	$2\frac{3}{8}$	$\frac{13}{16}$	$\frac{3}{16}$
	77	$1\frac{9}{16}$	$1\frac{1}{4}$	$\frac{3}{16}$	$\frac{1}{4}$	" "	$2\frac{7}{16}$	$\frac{3}{4}$	$\frac{7}{32}$
Made on Order Sizes	35	$1\frac{3}{32}$	$\frac{13}{16}$	$\frac{1}{8}$	$\frac{1}{4}$	Round—Countersunk	$1\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{8}$
	042	$1\frac{1}{32}$	$\frac{3}{4}$	$\frac{3}{32}$	$\frac{1}{4}$	" "	$1\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{16}$
	51	$\frac{29}{32}$	$\frac{19}{32}$	$\frac{1}{8}$	$\frac{3}{16}$	" "	$1\frac{9}{32}$	$\frac{3}{8}$	$\frac{1}{8}$
	78	$1\frac{3}{4}$	$1\frac{11}{32}$	$\frac{7}{32}$	$\frac{5}{16}$	" "	$2\frac{11}{16}$	$\frac{29}{32}$	$\frac{9}{32}$

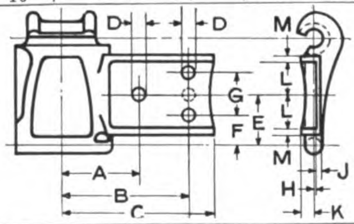
A-2 Attachment



Can be furnished either Right or Left Hand. Right Hand shown

Class	Chain No.	A	B	C	D Diam. of Bolt	Kind of Hole	E	F	G	H
Carried in Stock	45	$1\frac{7}{16}$	$\frac{23}{32}$	2	$\frac{1}{4}$	Round—Straight	$\frac{5}{8}$	$\frac{3}{32}$	$\frac{3}{32}$	$\frac{7}{32}$
Made on Order	55	$1\frac{1}{2}$	$\frac{11}{16}$	2	$\frac{1}{4}$	Round—Straight	$\frac{5}{8}$	$\frac{3}{32}$	$\frac{3}{32}$	$\frac{7}{32}$

A-3 Attachment



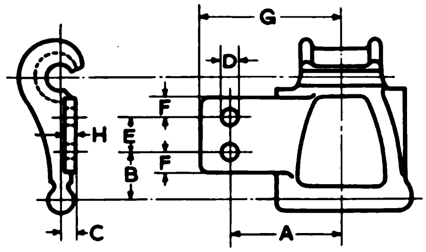
Can be furnished either Right or Left Hand. Right Hand shown

Class	Chain No.	A	B	C	D Diam. of Bolts	No. of Holes	Kind of Holes	E	F	G	H	J	K	L	M
Carried in Stock	52	......	$1\frac{5}{8}$	$2\frac{7}{32}$	$\frac{3}{16}$	1	Round—Countersunk	$\frac{23}{32}$	....	....	0	$\frac{3}{32}$	$\frac{1}{4}$	$\frac{7}{16}$	$\frac{1}{8}$
Made on Order Sizes	25	......	$\frac{5}{8}$	$1\frac{1}{8}$	$\frac{3}{16}$	1	Round—Countersunk	$\frac{7}{16}$	....	....	0	$\frac{1}{16}$	$\frac{5}{32}$	$\frac{7}{32}$	$\frac{1}{16}$
	32	......	$\frac{29}{32}$	$1\frac{5}{16}$	$\frac{3}{16}$	1	" "	$\frac{9}{16}$	....	....	0	$\frac{3}{32}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{3}{32}$
	42	......	$1\frac{9}{16}$	$2\frac{1}{8}$	$\frac{3}{16}$	1	" "	$\frac{21}{32}$	....	....	0	$\frac{3}{32}$	$\frac{5}{16}$	$\frac{7}{16}$	$\frac{3}{32}$
	44	......	$1\frac{1}{2}$	$2\frac{3}{8}$	$\frac{3}{16}$	1	" "	$\frac{3}{4}$	....	....	0	$\frac{3}{32}$	$\frac{3}{16}$	$\frac{11}{32}$	$\frac{7}{16}$
	45	......	$1\frac{9}{16}$	$2\frac{1}{8}$	$\frac{3}{16}$	1	" "	$\frac{13}{16}$	....	....	0	$\frac{3}{32}$	$\frac{5}{16}$	$\frac{15}{32}$	$\frac{7}{64}$
	48	......	$1\frac{5}{16}$	$1\frac{27}{32}$	$\frac{3}{16}$	2	" "	$1\frac{3}{32}$	$\frac{11}{16}$	$\frac{11}{16}$	0	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{3}{4}$	$\frac{1}{8}$
	55	......	$1\frac{9}{16}$	$2\frac{3}{16}$	$\frac{3}{16}$	1	" "	$\frac{13}{16}$	....	....	0	$\frac{3}{32}$	$\frac{5}{16}$	$\frac{1}{2}$	$\frac{1}{16}$
	62	......	$1\frac{7}{16}$	$2\frac{1}{4}$	$\frac{1}{4}$	1	" "	$\frac{25}{32}$	....	....	0	$\frac{1}{8}$	$\frac{11}{64}$	$\frac{1}{2}$	$\frac{1}{8}$
	$62\frac{1}{2}$	......	$1\frac{7}{16}$	$2\frac{7}{32}$	$\frac{1}{4}$	1	" "	$\frac{25}{32}$	....	....	0	$\frac{1}{8}$	$\frac{13}{64}$	$\frac{1}{2}$	$\frac{1}{16}$
	78	$1\frac{7}{8}$	$3\frac{1}{8}$	$3\frac{7}{8}$	$\frac{1}{4}$	3	Square—Countersunk	$1\frac{5}{16}$	$\frac{15}{16}$	$\frac{3}{4}$	0	$\frac{1}{8}$	$\frac{3}{8}$	$\frac{13}{16}$	$\frac{1}{8}$
	88	$2\frac{1}{32}$	$3\frac{9}{32}$	$4\frac{3}{16}$	$\frac{5}{16}$	3	" "	$1\frac{3}{8}$	1	$\frac{3}{4}$	0	$\frac{5}{32}$	$\frac{13}{32}$	$\frac{13}{16}$	$\frac{5}{32}$

Detachable Link Chains

Attachments

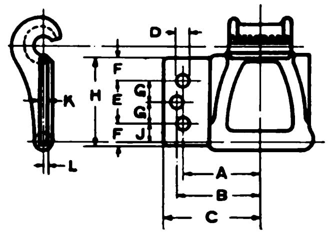
Can be furnished either Right or Left Hand. Left Hand shown



A-4 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Made on Order Size	103	2 11/16	1	9/32	3/8	Square—Straight	1 1/8	1/2	3 5/8	5/16

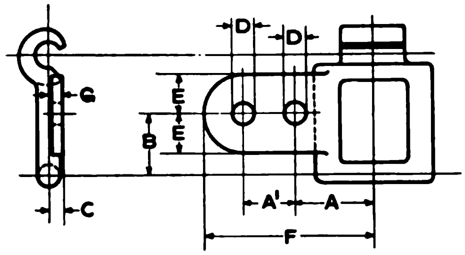
Can be furnished either Right or Left Hand. Left Hand shown



A-11 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	No. of Holes	E	F	G	H	J	K	L
Carried in	78	1 13/16	....	2 11/32	5/16	Round—Countersunk	2	1 5/16	5/8	....	2 9/16	7/16	3/16	3/32
Stock	88	1 13/16	....	2 13/32	5/16	" "	2	1 5/16	5/8	....	2 19/32	7/16	3/16	3/32
Sizes	103	2 1/16	2 7/32	2 29/32	5/16	Round—Straight	3	1 7/8	9/16	15/16	3	5/16	3/16	1/8

Can be furnished either Right or Left Hand. Left Hand shown



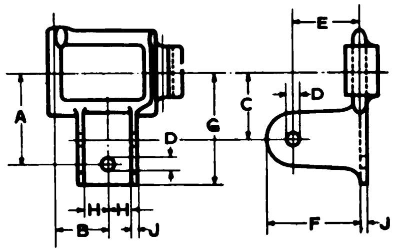
A-12 Attachment

Class	Chain No.	A	A1	B	C	D Diam. of Bolts	Kind of Holes	No. of Holes	E	F	G
Made on Order Size	62	1 3/8	9/16	27/32	5/32	1/4	Round—Countersunk	2	19/32	2 9/16	7/32

Detachable Link Chains

Attachments

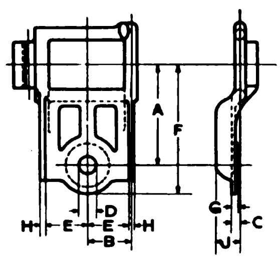
A-14 Attachment



Can be furnished either Right or Left Hand. Right Hand shown

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J
Made on Order Size	45	1 9/32	13/16	31/32	3/16	Round—Straight	21/32	1 5/16	1 9/16	5/16	3/32

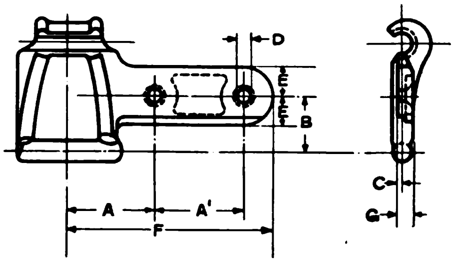
A-37LA Attachment



Can be furnished either Right or Left Hand. Left Hand shown

Class	Chain No.	A	B	C	D Diam. of Bolt	Kind of Hole	E	F	G	H	J
Made on Order Size	45	1⅝	11/16	⅛	¼	Round—Straight	11/16	2 3/32	5/32	3/32	7/16

A-113 Attachment

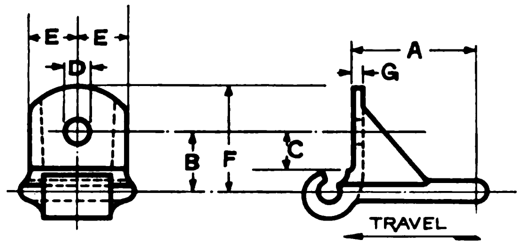


Can be furnished either Right or Left Hand. Right Hand shown

Class	Chain No.	A	A1	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Carried in Stock Size	77	1⅝	1¾	1 5/32	1/16	¼	Round—Countersunk	17/32	3⅞	7/32

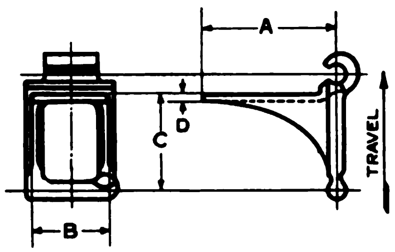
Detachable Link Chains

Attachments



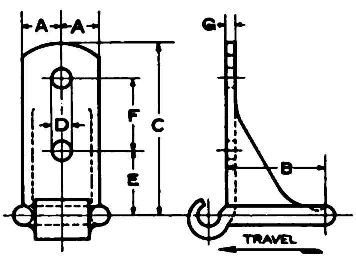
C-1 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolt	Kind of Hole	E	F	G
Carried in. Stock Sizes	25	3/4	15/32	7/16	1/8	Round—Straight	9/32	3/4	1/16
	32	1	5/8	1/2	1/4	" "	13/32	1 1/8	3/32
	34	1 7/32	21/32	9/16	1/4	" "	15/32	1 7/32	3/32
	42	1 1/8	3/4	1/2	1/4	" "	17/32	1 3/16	3/32
	45	1 3/8	23/32	1/2	1/4	" "	17/32	1 5/32	3/32
	55	1 11/32	11/16	1/2	1/4	" "	19/32	1 3/16	3/32
	62	1 9/32	7/8	5/8	1/4	" "	11/16	1 1/8	1/8
Made on Order Sizes	35	1 3/8	13/16	9/16	1/4	Round—Straight	17/32	1 7/32	3/32
	52	1 7/32	3/4	5/8	1/4	" "	5/8	1 5/16	1/8
	66	1 5/8	13/16	21/32	1/4	" "	3/4	1 5/16	1/8



C-2 Attachment

Class	Chain No.	A	B	C	D
Made on Order Size	34	1 9/16	15/16	1 1/8	3/32



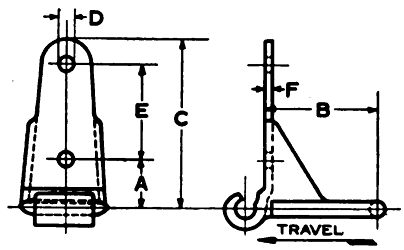
C-8 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolt	Kind of Holes	No. of Holes	E	F	G
Made on Order Sizes	47	17/32	1 1/2	1 15/16	....	....	0	....	......	1/8
	55	17/32	1 3/8	2 1/2	1/4	Round—Straight	2	15/16	1 3/32	5/32
	62	5/8	1 11/32	2 1/2	1/4	" "	2	15/16	1 3/32	3/16

Detachable Link Chains

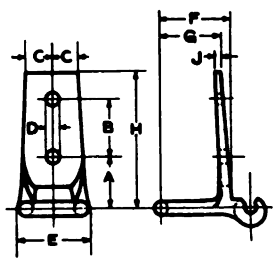
Attachments

C-15 Attachment



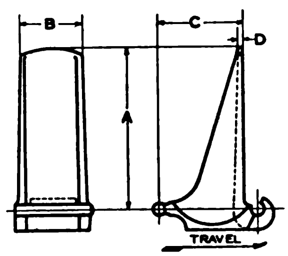
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F
Made on Order Size	45	11/16	1 3/8	2 3/16	3/16	Round—Straight	1 3/16	1/8

C-27 Attachment



Class	Chain No.	A	B	C	D Diam. of Bolt	Kind of Hole	E	F	G	H	J
Made on Order Size	45	15/16	1	9/16	1/4	Round—Straight	1 5/16	1 9/32	7/8	2 1/2	1/8

C-33 Attachment

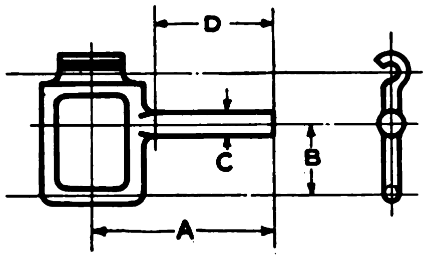


Class	Chain No.	A	B	C	D
Made on Order Size	47	2 5/8	1	1 11/32	1/8

Detachable Link Chains

Attachments

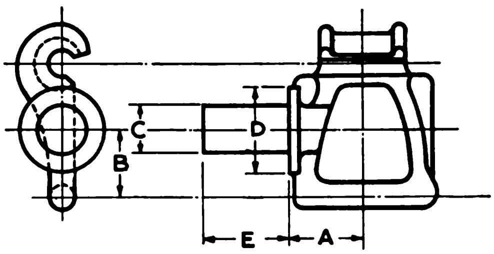
Can be furnished either Right or Left Hand. Right Hand shown



D-3 Attachment

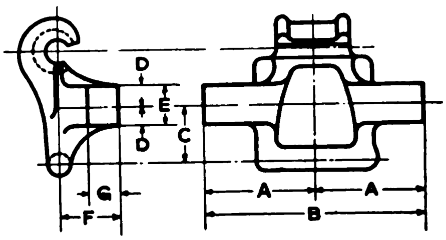
Class	Chain No.	A	B	C	D
Made on Order Sizes	25	1 3/8	7/16	1/4	15/16
	32	1 5/8	19/32	11/32	1
	45	2 5/8	3/4	15/32	1 3/4

Can be furnished either Right or Left Hand. Left Hand shown



D-5 Attachment

Class	Chain No.	A	B	C	D	E
Carried in Stock Sizes	62	7/8	13/16	1/2	1	1 3/4
	67	1 3/16	1 3/16	1/2	1 9/16	1 1/2
	77	1 3/16	1 1/8	1/2	1 3/16	1 1/2
	83	1 3/4	2 1/16	7/8	1 7/16	1 3/4
	88	1 1/2	1 5/16	7/8	1 5/8	1 13/16
Made on Order Sizes	45	3/4	7/8	1/2	7/8	1
	55	7/8	13/16	7/16	15/16	1 5/16
	57	1 1/16	1 1/8	5/8	1 3/16	1 3/16
	75	1 1/4	1 3/16	7/8	1 3/4	1 7/16
	78	1 1/2	1 5/16	7/8	1 5/8	1 3/4
	103	1 3/4	1 17/32	7/8	1 3/4	1 3/4



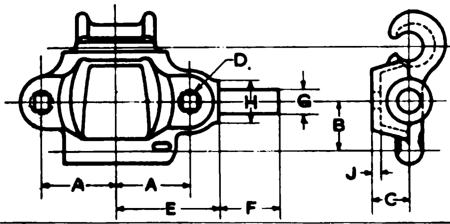
DD Attachment

Class	Chain No.	A	B	C	D	E	F	G
Made on Order Size	114	2 15/16	5 7/8	1 5/8	1/2	1	1 3/16	13/16

Detachable Link Chains

Attachments

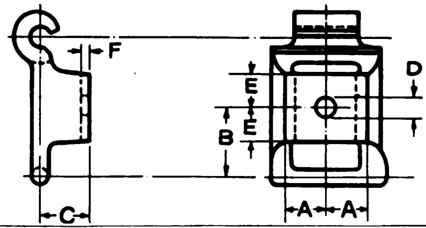
DK Attachment



Can be furnished either Right or Left Hand. Right Hand shown

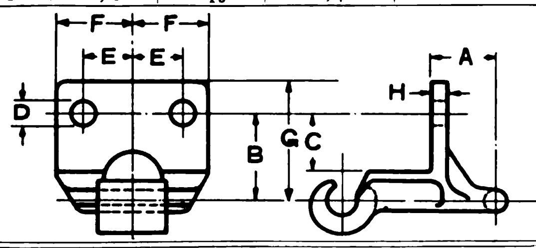
Class	Chain No.	A	B	C	D Diam of Bolts	Kind of Holes	E	F	G	H	J
Made on Order Size	88	1 7/8	1 3/8	11/16	5/16	Square—Countersunk	2 3/8	1 9/16	3/4	1 1/8	3/16

E-1 Attachment



Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Hole	E	F
Carried in Stock Sizes	32	5/16	9/16	13/32	3/16	Round—Straight	9/32	1/16
	33	5/16	11/16	11/32	3/16	" "	3/8	1/16
	34	11/32	11/16	11/32	3/16	Round—Countersunk	11/32	1/16
	45	7/16	13/16	1/2	3/16	" "	13/32	3/32
	55	1/2	13/16	1/2	1/4	" "	7/16	3/32
	67	3/4	1 5/32	21/32	1/4	Square—Countersunk	9/16	1/8
	77	3/4	1 5/32	13/16	1/4	" "	9/16	1/8
	88	13/16	1 5/8	13/16	3/8	" "	21/32	1/8
Made on Order Sizes	25	1/4	1/2	5/16	1/8	Round—Straight	7/32	5/64
	35	7/16	13/16	1/2	3/16	" "	13/32	3/32
	42	7/16	11/16	7/16	3/16	Round—Countersunk	3/8	3/32
	52	9/16	3/4	5/8	1/4	" "	11/32	1/8
	57	9/16	1 5/32	5/8	1/4	Square—Countersunk	9/16	1/8
	78	7/8	1 3/8	13/16	1/4	" "	19/32	1/8

F-2 Attachment

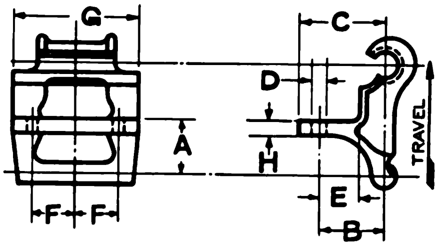


Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Carried in Stock Sizes	45	5/8	3/4	5/8	3/16	Round—Straight	17/32	3/4	1 3/32	1/8
	52	5/8	15/16	11/16	3/16	" "	17/32	27/32	1 1/4	5/32
	55	11/16	29/32	5/8	3/16	" "	17/32	25/32	1 1/4	5/32
	57	15/16	1 3/16	13/16	1/4	" "	25/32	1 1/16	1 5/8	7/32
	67	1 1/16	1 1/16	3/4	1/4	" "	25/32	1 1/16	1 17/32	7/32
	75	1	1 1/4	7/8	5/16	" "	25/32	1 3/16	1 5/8	1/4
	77	1 3/16	1 3/8	15/16	5/16	" "	7/8	1 1/4	1 15/16	1/4
	78	1 1/8	1 13/32	1	5/16	" "	7/8	1 9/32	1 15/16	9/32
	85	1 3/4	1 13/16	1 1/4	3/8	" "	1 1/2	2	2 17/32	9/32
	* 88	1 1/4	1 3/8	7/8	5/16	" "	1	1 13/32	2	1/4
	95	1 3/4	1 13/16	1 1/4	3/8	" "	1 1/2	2 1/32	2 5/8	9/32
	*103	1 5/16	1 13/16	1 1/4	3/8	" "	1 1/16	1 17/32	2 9/16	9/32
	108	1 7/8	1 13/16	1 1/4	3/8	" "	1 7/8	2 5/16	2 23/32	5/16
Made on Order Sizes	104 1/2	2 21/32	2	1 5/16	3/8	Round—Straight	1 3/32	1 13/16	2 3/4	11/32
	*124	1 11/16	2	1 3/8	3/8	" "	1 7/16	1 31/32	2 21/32	3/8

*These sizes can be furnished in Manganese Steel.

Detachable Link Chains

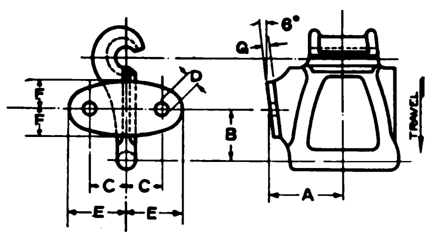
Attachments



F-8 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Carried in Stock Sizes	88	1 9/16	1 7/16	2	5/16	Round—Straight	15/16	1	2 3/4	13/32
	103	2 11/32	2	2 5/8	3/8	" "	1 7/16	1 1/16	3	7/16
	114	1 7/8	1 1/2	2 1/4	3/8	" "	7/8	1	3 1/2	7/16
	124	2 7/16	2 3/32	2 7/8	1/2	" "	1 7/16	1 1/4	3 15/16	17/32

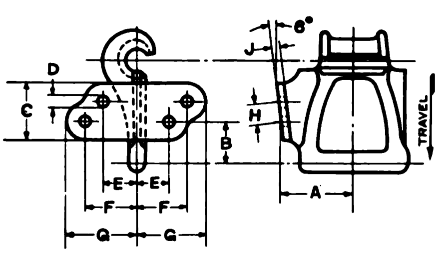
Can be furnished either Right or Left Hand. Left Hand shown



G-1 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Carried in Stock Sizes	45	23/32	13/16	17/32	3/16	Round—Straight	7/8	13/32	3/32
	67	1 11/32	1 1/8	1 5/16	1/4	" "	1 21/32	5/8	3/16
	77	1 5/16	1 1/8	1 5/16	1/4	" "	1 21/32	5/8	3/16
Made on Order Sizes	25	15/32	1/2	11/32	1/8	Round—Straight	9/16	5/16	3/32
	32	19/32	9/16	3/8	3/16	" "	11/16	3/8	1/8
	52	7/8	3/4	17/32	3/16	" "	27/32	13/32	1/8
	75	1 5/16	1 5/16	1 5/16	5/16	" "	1 21/32	5/8	3/16
	78	1 1/2	1 5/16	1 5/16	1/4	" "	1 21/32	5/8	5/32
	88	1 1/2	1 5/16	1 5/16	1/4	" "	1 21/32	5/8	3/16

Can be furnished either Right or Left Hand. Left Hand shown



G-6 Attachment

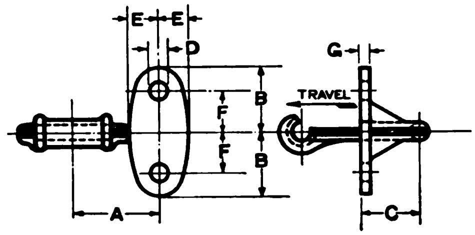
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J
Carried in Stock Sizes	78	1 1/2	1	1 13/32	1/4	Round—Straight	7/8	1 17/32	1 31/32	9/16	1/4
	88	1 1/2	1	1 15/32	1/4	" "	7/8	1 17/32	1 31/32	9/16	1/4
	*103	2 1/16	1 1/4	2 1/16	3/8	" "	7/8	1 17/32	2 1/16	9/16	1/4
	*124	2 13/16	1 1/2	2 3/8	3/8	" "	15/16	1 13/16	2 7/16	1	5/16
Made on Order Sizes	77	1 5/16	7/8	1 3/8	1/4	Round—Straight	5/8	1 3/16	1 21/32	1/2	3/16
	85	2 1/4	1 11/16	1 17/32	1/4	" "	7/8	1 5/8	2 1/32	5/8	1/4

*These sizes can be furnished in Manganese Steel.

Detachable Link Chains

Attachments

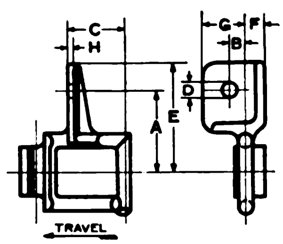
G-19 Attachment



Can be furnished either Right or Left Hand. Left Hand shown

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Carried in Stock Sizes	78	2	$1\frac{25}{32}$	$1\frac{3}{8}$	$\frac{5}{16}$	Round—Straight	$\frac{11}{16}$	$1\frac{5}{16}$	$\frac{7}{32}$
	88	2	$1\frac{25}{32}$	$1\frac{3}{8}$	$\frac{5}{16}$	" "	$\frac{11}{16}$	$1\frac{5}{16}$	$\frac{7}{32}$
	103	$2\frac{3}{8}$	$1\frac{31}{32}$	$1\frac{11}{16}$	$\frac{3}{8}$	" "	$\frac{13}{16}$	$1\frac{7}{16}$	$\frac{5}{16}$

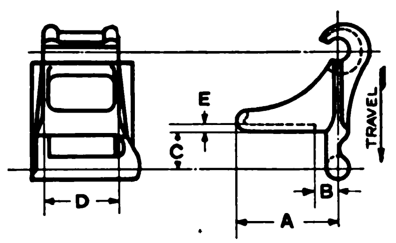
G-27 Attachment



Can be furnished either Right or Left Hand. Right Hand shown

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Made on Order Sizes	42	$1\frac{9}{32}$	$\frac{7}{16}$	$\frac{5}{8}$	$\frac{1}{4}$	Round—Straight	$1\frac{15}{16}$	$\frac{1}{8}$	$\frac{15}{16}$	$\frac{5}{32}$
	45	$1\frac{1}{4}$	$\frac{1}{2}$	$\frac{7}{8}$	$\frac{1}{4}$	" "	$1\frac{7}{8}$	$\frac{1}{8}$	1	$\frac{5}{32}$
	55	$1\frac{5}{16}$	$\frac{3}{8}$	1	$\frac{1}{4}$	" "	2	$\frac{1}{8}$	$\frac{15}{16}$	$\frac{5}{32}$
	62	$1\frac{5}{16}$	$\frac{5}{32}$	$\frac{31}{32}$	$\frac{1}{4}$	" "	2	$\frac{3}{8}$	$\frac{21}{32}$	$\frac{5}{32}$

H-1 Attachment

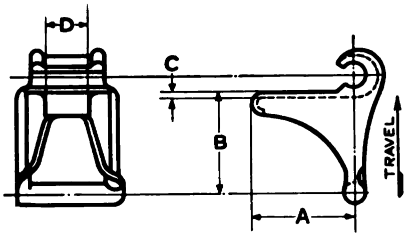


Class	Chain No.	A	B	C	D	E
Carried in Stock Sizes	75	$2\frac{9}{16}$	$\frac{9}{16}$	$\frac{9}{16}$	$1\frac{3}{32}$	$\frac{1}{8}$
	77	$2\frac{3}{16}$	$\frac{9}{16}$	$\frac{17}{32}$	$1\frac{3}{32}$	$\frac{1}{8}$
	*88	$2\frac{13}{16}$	$\frac{9}{16}$	$\frac{9}{16}$	$1\frac{9}{16}$	$\frac{1}{8}$
	103	$2\frac{3}{8}$	$\frac{7}{8}$	$\frac{3}{4}$	$2\frac{1}{16}$	$\frac{1}{8}$
Made on Order Size	78	$2\frac{11}{16}$	$\frac{9}{16}$	$\frac{5}{8}$	$1\frac{7}{16}$	$\frac{1}{8}$

*Can be furnished in Manganese Steel.

Detachable Link Chains

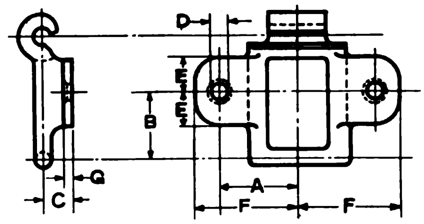
Attachments



H-2 Attachment

Class	Chain No.	A	B	C	D
Carried in Stock Sizes	25	15/32	13/16	3/32	5/8
	78	2 11/16	2 3/16	1/8	1 3/8
	*88	2 15/16	2 1/8	1/8	1 9/16
	103	2 3/8	2 1/4	3/16	1 15/16
Made on Order Sizes	45	1 7/16	1 7/16	3/32	27/32
	57	2 3/16	2	3/32	1

*Can be furnished in Manganese Steel.



K-1 Attachment

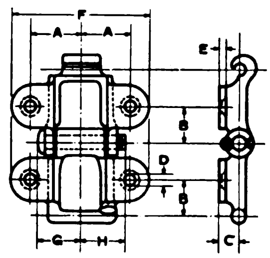
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Carried in Stock Sizes	25	5/8	1/2	11/32	1/8	Round—Countersunk	7/32	7/8	3/32
	32	7/8	19/32	3/8	3/16	" "	5/16	1 3/32	3/32
	33	13/16	11/16	7/16	3/16	" "	3/8	1 3/32	3/32
	34	27/32	25/32	7/16	3/16	" "	13/32	1 1/8	1/8
	42	1	11/16	3/8	3/16	" "	13/32	1 11/32	1/8
	45	1	25/32	13/32	3/16	" "	7/16	1 5/16	1/8
	52	1 3/16	23/32	7/16	3/16	" "	15/32	1 9/16	1/8
	55	1	25/32	13/32	3/16	" "	7/16	1 11/32	1/8
	57	1 1/2	1 1/8	5/8	1/4	" "	9/16	1 21/32	1/8
	62	1 3/16	27/32	15/32	1/4	" "	7/16	1 5/8	5/32
	67	1 1/2	1 1/16	11/16	1/4	Square—Countersunk	17/32	2	5/32
	75	1 13/32	1 3/16	5/8	1/4	" "	23/32	1 29/32	5/32
	77	1 1/2	1 1/8	21/32	1/4	" "	21/32	1 31/32	5/32
	78	1 11/16	1 1/4	5/8	1/4	" "	11/16	2 1/8	5/32
	83	2	2	7/8	3/8	" "	25/32	2 25/32	9/32
	*88	1 29/32	1 1/4	3/4	5/16	" "	11/16	2 3/8	3/16
	*103	2 3/32	1 1/2	7/8	3/8	" "	7/8	2 19/32	1/4
	114	2 13/32	1 5/8	7/8	1/2	Square—Straight	7/8	3 5/32	5/16
	*124	3	2 1/16	1	5/8	" "	1 5/16	3 15/16	5/16
Made on Order Sizes	35	1	27/32	13/32	3/16	Round—Countersunk	7/16	1 11/32	1/8
	48	1 5/16	1 1/32	19/32	1/4	" "	5/8	1 3/4	5/32
	51	7/8	5/8	7/16	3/16	" "	5/16	1 7/32	1/8
	66	1 3/8	1	11/16	1/4	" "	1/2	1 21/32	5/32

*These sizes can be furnished in Manganese Steel.

Detachable Link Chains

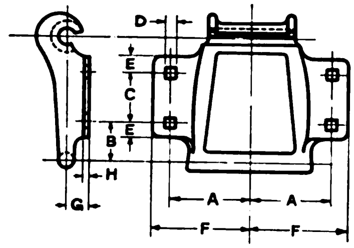
Attachments

K-1 Coupler Attachment



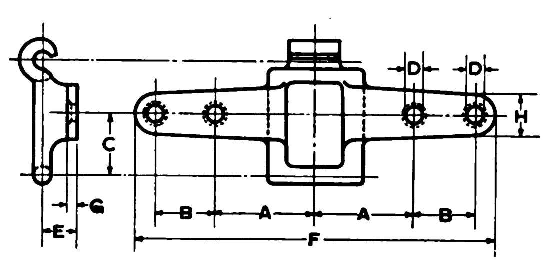
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Made on Order Size	45	1	25/32	13/32	3/16	Round—Countersunk	1/8	2 5/8	3/4	7/8

K-2 Attachment



Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Carried in Stock Sizes	85	2 19/32	1 1/8	1 3/4	3/8	Square—Countersunk	13/32	3 3/32	13/16	3/16
	95	2 19/32	1 1/8	1 3/4	3/8	" "	15/32	3 3/16	13/16	7/32
	103	2 1/16	13/16	1 1/2	1/2	Round—Straight	15/32	2 11/16	13/16	5/16
	108	3 1/8	1 5/32	2 5/16	3/8	Square—Countersunk	1/2	3 21/32	7/8	7/32
	114	2 1/8	13/16	1 1/2	1/2	Round—Straight	1/2	2 11/16	13/16	13/32
Made on Order Sizes	104 1/2	2 3/4	1 1/2	1 19/32	3/8	Round—Straight	9/16	3 3/8	7/8	9/32
	122	3 3/4	1 7/8	2 3/4	3/8	Square—Straight	5/8	4 1/2	1 5/32	9/32

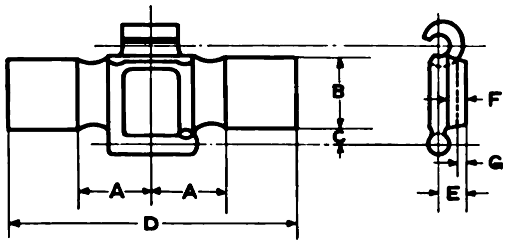
K-3 Attachment



Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Made on Order Sizes	33	1	1	11/16	3/16	Round—Straight	7/16	4 15/32	1/8	5/8
	42	1 1/16	1 5/32	11/16	3/16	Round—Countersunk	1/2	4 15/16	1/8	5/8
	45	1 9/16	27/32	7/8	3/16	" "	1/2	5 3/8	1/8	5/8
	67	1 1/2	1	1 1/8	1/4	Square—Countersunk	5/8	5 7/8	1/8	1 1/4

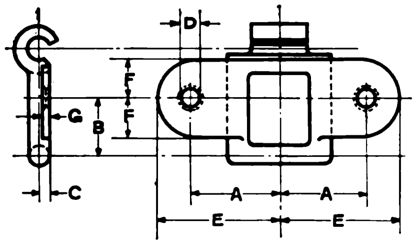
Detachable Link Chains

Attachments



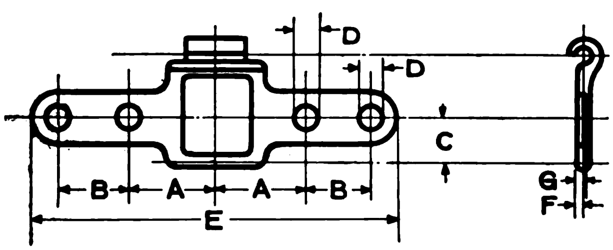
K-3½ Attachment

Class	Chain No.	A	B	C	D	E	F	G
Made on Order Size	50	1 3/32	1	1/4	4 1/8	13/32	9/32	1/8



K-5 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Carried in Stock Size	62	1 1/4	7/8	1/8	1/4	Round—Countersunk	1 11/16	19/32	5/32
Made on Order Sizes	32	27/32	19/32	3/32	3/16	Round—Countersunk	1 5/32	11/32	3/32
	33	1	25/32	3/32	3/16	" "	1 11/32	3/8	3/32
	42	1 5/32	3/4	7/64	1/4	" "	1 1/2	7/16	1/8
	45	1 3/16	29/32	7/64	1/4	" "	1 5/8	9/16	1/8
	51	1 3/16	9/16	1/8	3/16	" "	1 9/16	7/16	1/8
	52	1 3/16	27/32	1/8	1/4	" "	1 21/32	17/32	1/8
	55	1 3/16	7/8	1/8	1/4	" "	1 5/8	1/2	1/8



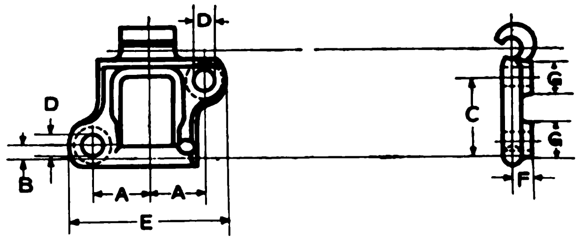
K-6 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Made on Order Sizes	32	25/32	1 1/16	21/32	3/16	Round—Countersunk	4 1/2	3/32	3/32
	33	25/32	1 1/8	25/32	3/16	" "	4 5/8	3/32	3/32
	42	29/32	1 1/8	11/16	3/16	" "	4 15/16	7/64	1/8

Detachable Link Chains

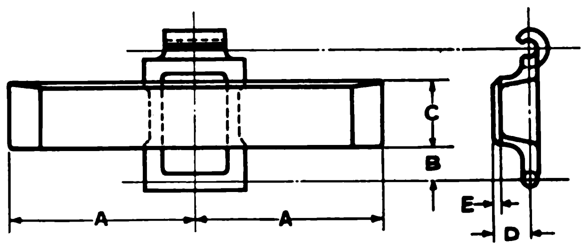
Attachments

K-9 Attachment



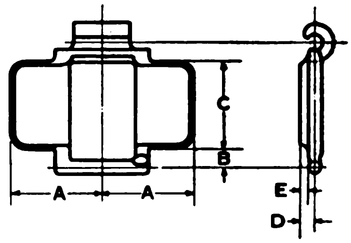
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Made on Order Size	52	3/4	7/32	1 1/16	1/4	Round—Straight	2 1/8	5/16	1/2

K-40 Attachment



Class	Chain No.	A	B	C	D	E
Carried in Stock Sizes	45 62	2 5/16 2 1/2	3/8 19/32	13/16 27/32	1/2 5/16	1/8 5/16

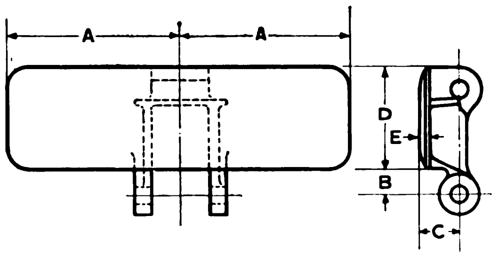
K-44 Attachment



Class	Chain No.	A	B	C	D	E
Made on Order Size	45	1 1/8	1/4	1 1/8	1/4	1/8

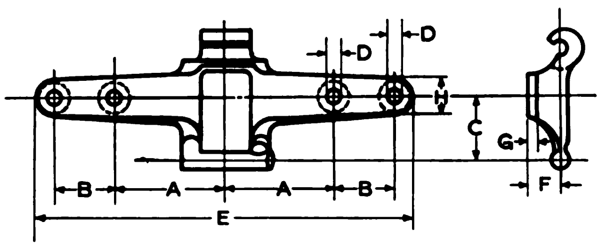
Detachable Link Chains

Attachments



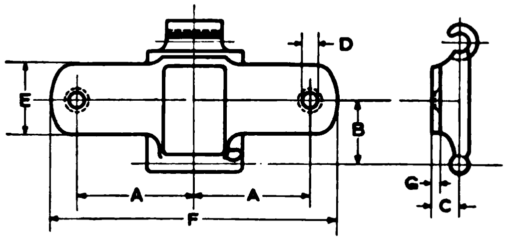
K-45½ Attachment

Class	Chain No.	A	B	C	D	E
Carried in Stock Size	55	2¼	½	17/32	1 9/16	⅛
Made on Order Size	45	2¼	13/32	17/32	1 9/16	⅛



K-48 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Made on Order Size	45	1 21/64	23/32	29/32	3/16	Round—Countersunk	5	½	⅛	17/32



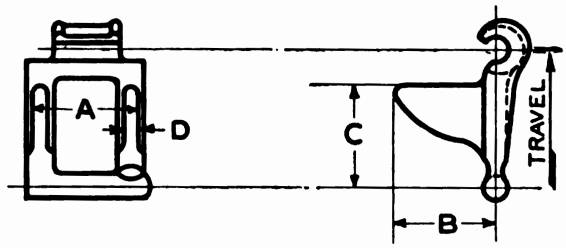
K-52 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Made on Order Size	55	1½	27/32	⅜	3/16	Round—Countersunk	⅞	3 13/16	⅛

Detachable Link Chains

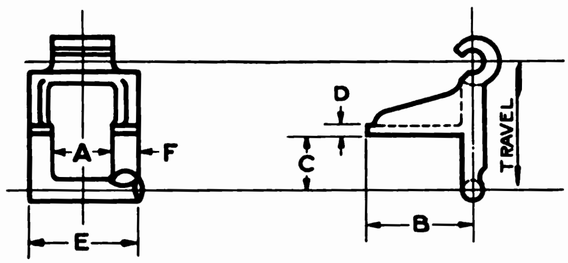
Attachments

L-2 Attachment



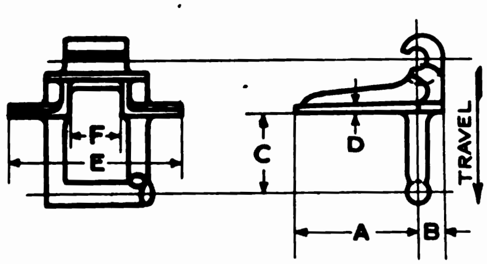
Class	Chain No.	A	B	C	D
Made on Order Sizes	45 55 103	1 3/16 1 3/16 2 13/16	15/16 15/16 3	1 1/8 31/32 2 17/32	3/16 3/16 3/8

L-3 Attachment



Class	Chain No.	A	B	C	D	E	F
Made on Order Sizes	37 057	5/8 13/16	1 1/32 1 1/16	1 1/4 27/32	3/32 3/32	1 5/16 1 7/16	11/32 5/16

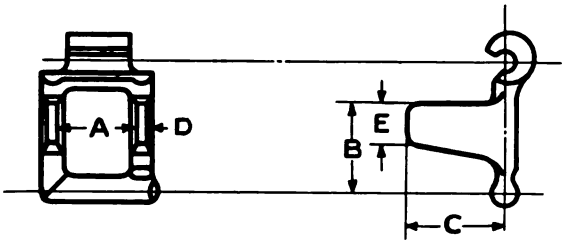
L-14 Attachment



Class	Chain No.	A	B	C	D	E	F
Made on Order Size	37	1 3/16	1/4	1 1/4	3/32	1 13/16	5/8

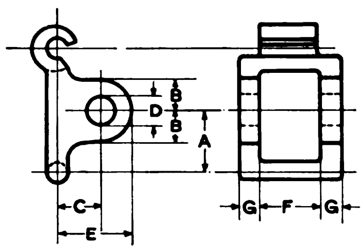
Detachable Link Chains

Attachments



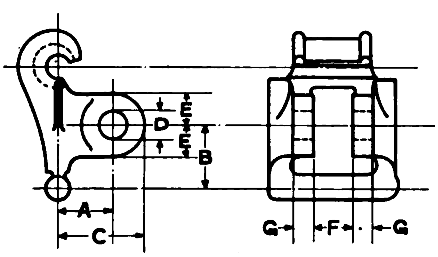
L-21 Attachment

Class	Chain No.	A	B	C	D	E
Made on Order Size	55	7/8	15/16	15/16	3/16	7/16



M-1 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolt	Kind of Holes	E	F	G
Made on Order Sizes	25	13/32	1/4	3/8	3/16	Round—Straight	21/32	7/16	5/32
	32	19/32	5/16	5/8	1/4	" "	29/32	17/32	13/64
	33	11/16	3/8	1/2	3/8	" "	27/32	5/8	11/64
	45	13/16	3/8	17/32	3/8	" "	7/8	13/16	7/32
	55	13/16	15/32	5/8	3/8	" "	1 1/16	7/8	7/32



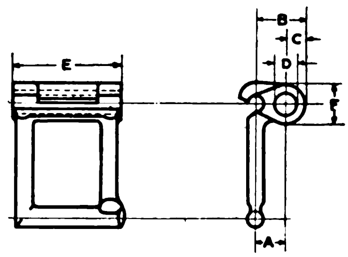
M-3 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolt	Kind of Holes	E	F	G
Carried in Stock Sizes	78	1 1/4	1 7/16	1 7/8	5/8	Round—Straight	5/8	1	3/8
	83	1 7/16	2	2 1/8	5/8	" "	11/16	1	7/16
	88	1 1/4	1 3/8	1 7/8	5/8	" "	5/8	1	3/8
	103	1 3/8	1 17/32	2 1/8	5/8	" "	3/4	1	9/16
Made on Order Size	77	1 3/16	1 1/8	1 13/16	1/2	Round—Straight	5/8	15/16	9/32

Detachable Link Chains

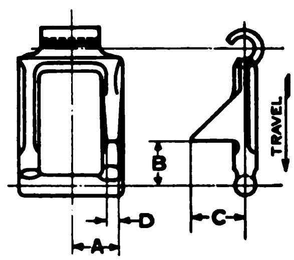
Attachments

M-17 Attachment



Class	Chain No.	A	B	C	D Diam. of Bolt	Kind of Hole	E	F
Made on Order Size	62	7/16	3/4	5/16	5/16	Round—Straight	1 9/16	5/8

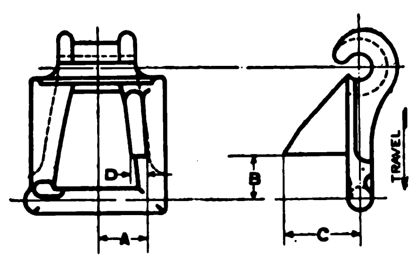
R-1 Attachment



Can be furnished either Right or Left Hand. Right Hand shown

Class	Chain No.	A	B	C	D
Carried in Stock Sizes	78 88	1 3/16 1 1/4	13/16 13/16	1 1/8 1 1/8	7/32 1/4
Made on Order Size	75	1	13/16	1	7/32

R-3 Attachment

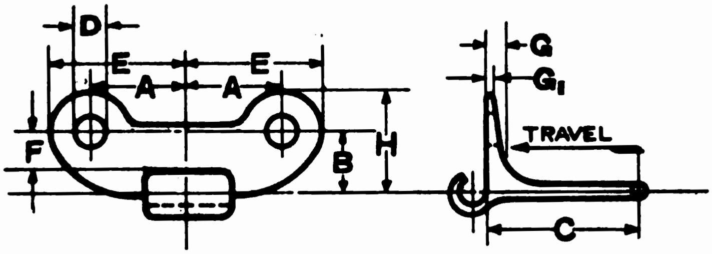


Can be furnished either Right or Left Hand. Right Hand shown

Class	Chain No.	A	B	C	D
Carried in Stock Size	77	3/4	3/4	1 3/8	3/16

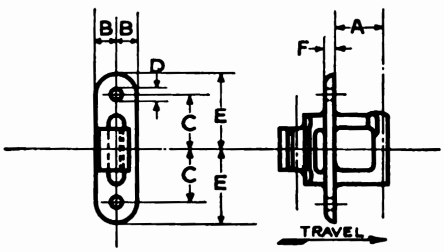
Detachable Link Chains

Attachments



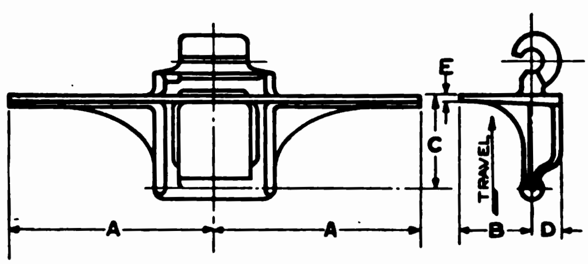
S-1 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	G1	H
Carried in Stock Sizes	33	27/32	13/32	1 3/16	3/16	Round—Straight	1 1/8	5/16	3/16	3/32	3/4
	42	27/32	13/32	1 3/32	3/16	" "	1 1/8	5/16	3/16	3/32	3/4
	45	27/32	13/32	1 11/32	3/16	" "	1 1/8	1/4	3/16	3/32	3/4
	55	27/32	13/32	1 3/8	3/16	" "	1 1/8	1/4	3/16	3/32	3/4
	62	1	15/32	1 5/16	1/4	" "	1 3/8	5/16	3/16	3/32	13/16
Made on Order Sizes	25	17/32	5/16	3/4	3/16	Round—Straight	3/4	1/4	3/16	1/16	17/32
	35	27/32	13/32	1 7/16	3/16	" "	1 1/8	1/4	3/16	3/32	3/4
	51	11/16	7/16	1	3/16	" "	1 1/16	1/4	3/16	3/32	3/4



S-5 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F
Carried in Stock Size	55	3/4	11/32	15/16	3/16	Round—Straight	1 1/4	5/32
Made on Order Size	45	23/32	21/64	15/16	3/16	Round—Straight	1 1/4	5/32



Scrapers Group D

Class	Chain No.	Scraper No.	A	B	C	D	E
Carried in Stock Sizes	55	19	3 23/32	9/16	1 3/8	5/16	9/64
	55	20	1 3/4	1 1/8	1 1/4	3/8	1/8
Made on Order Sizes	45	22	1 27/32	27/32	1 13/32	11/32	1/8
	45	27	2 5/8	7/8	7/8	3/8	1/8

Standard Sprocket Wheels

Bored, Keyseated, Setscrewed

11819

Plate Center Wheel

For us to Specifiy Sprockets, give—

1. Speed and Size of Shafts.
2. Kind and Amount of Power.
3. Distance between Shaft Centers.
4. Clearance about Shafts and Sprockets.

For You to Order Sprockets from Catalog, give—

1. Pitch "Diam. Inches."
2. Number of Teeth.
3. Chain Number and Kind.
4. Pattern Number.
5. Shaft Size.
6. If Hub special, give sketch.
7. Driver, Driven or Perfect.
8. Keyseated or Set Screwed (or both.)
9. Keyway (unless Jeffrey Standard as given below.)

Special Features:

10. Cast Iron furnished when not specified.
11. Plain Cast Iron Teeth furnished unless specified "Chilled."
12. Hub and Rim furnished not split unless specified.

A Driving Sprocket (marked DG on casting) is made to transfer power from the wheel to the chain;—a Driven Sprocket (marked DN on casting) to transfer power from the chain to the wheel,—a Perfect Sprocket (marked Per on casting) can be used either as a Driving or Driven Sprocket, see page 428.

A Driving Sprocket is ordinarily made **somewhat larger** than an exact fit to the chain, while a Driven Sprocket is made **slightly smaller.** See page 428.

In the case of both Driving and Driven Sprockets but one tooth at a time takes the chain pull and transfers it to each successive tooth as the wheel rotates—and this tooth is the one just in the act of leaving the chain. See page 428.

Standard Hubs

Hubs of suitable diameter, as determined by long experience, are furnished to conform to the bore of the wheel.

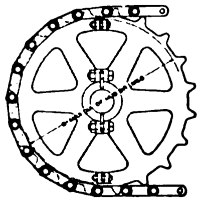
If for any reason hubs should be specified larger than standard, an extra charge for this will be made, based on additional cost.

Bore		15/16	1 3/16	1 7/16	1 11/16	1 15/16	2 3/16	2 7/16	2 11/16	2 15/16	3 7/16	3 15/16	4 7/16
Hub	Diam.	2	2½	3	3½	3¾	4	4½	4¾	5¼	6	6¾	7½
	Length	2	2½	3	3½	4	4½	4¾	4¾	5	5¼	6	6¾
Diam. Set Screw		⅜	½	½	⅝	⅝	⅝	⅝	⅝	¾	¾	⅞	⅞
Key	Width	¼	5/16	⅜	7/16	½	9/16	⅝	11/16	¾	⅞	1	1⅛
	Thickness	¼	5/16	⅜	7/16	½	9/16	⅝	11/16	¾	⅞	1	1⅛
Bore		4 11/16	4 15/16	5 3/16	5 7/16	5 15/16	6½	7	7½	8	8½	9	9½
Hub	Diam.	7¾	8¼	8½	9¼	10	10½	11½	12	12¾	13¼	14½	15
	Length	7¼	7½	8	8¼	9	9¾	10½	11¼	12	12¾	13½	14¼
Diam. Set Screw		⅞	⅞	⅞	⅞	1	1	1	1	1	1	1¼	1¼
Key	Width	1⅛	1¼	1¼	1⅜	1½	1⅝	1¾	1¾	2	2	2¼	2¼
	Thickness	1⅛	1¼	1¼	1⅜	1½	1½	1⅝	1⅝	1¾	1¾	1⅞	1⅞

The above table covers dimensions of Hubs for Sprockets, Gears and Transmission Pulleys.

Detachable Link Chains

Cast Iron Sprocket Wheels for Detachable and Mey-Oborn Chains



Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

No. 25

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
4▲	1.27	S-1200			½
5▲	1.53	S-1201			⅞
6▲	1.80	S-1202	1.81	S-1203	1⅛
7▲	2.07	S-1204	2.08	S-1205	1⅜
8▲	2.35	S-1206	2.36	S-1207	1⅝
9▲	2.63	S-1208	2.64	S-1209	2
10▲	2.91	S-1210	2.93	S-1211	2¼
11▲	3.19	S-1212	3.21	S-1213	2½
12▲	3.47	S-1214	3.49	S-1215	2¾
13▲			3.78	S-1216	3
14▲	4.04	S-1217	4.06	S-1218	3⅜
15▲	4.34P	S-1219	4.34P	S-1219	3½
16▲	4.61	S-1220	4.63	S-1221	3⅞
17▲	4.90	S-1222	4.92	S-1223	4⅛
18▲	5.19P	S-1224	5.20	S-1225	4½
20▲	5.75	S-1226	5.78	S-1227	5
21▲	6.04	S-1228	6.07	S-1229	5¼
22▲	6.32	S-1230	6.35	S-1231	5⅝
24▲	6.90	S-1233	6.93	S-1234	6¼
25	7.20P	S- 112	7.20P	S- 112	6⅝
26	7.47	S-1235	7.50	S-1236	6¾
28	8.04	S-1238	8.07	S-1239	7⅜
30▲	8.61	S-1240	8.65	S-1241	7⅞
35	10.06P	S-1242	10.08	S-1243	9⅜
36	10.33	S-1244			9⅝
38	10.90	S-1245			10¼
40	11.47	S-1246			10¾
42	12.05	S-1248	12.10	S-1249	11⅜
44	12.62	S-1251			11 11/16
48	13.76	S-1253	13.82	S-1254	13⅛
52	14.91	S-1255	14.97	S-1256	14¼
55	15.76	S-1257			15
56	16.05	S-1258	16.12	S-1259	15 7/16
57	16.34	S-1260			15⅝

No. 32

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5▲	1.96	S-1261			1 1/16
6▲	2.30	S-1262	2.31	S-1263	1⅜
7▲	2.65	S-1264	2.66	S-1265	1⅞
8▲	3.01	S-1266	3.02	S-1267	2¼
9▲	3.37P	S-1268	3.37P	S-1268	2 9/16
10▲	3.73P	S-1269	3.73P	S-1269	3
11▲	4.09	S-1270	4.10	S-1271	3¼
12▲	4.45	S-1272			3½
13▲	4.82P	S-1273	4.82P	S-1273	4 1/16
14▲	5.18	S-1274	5.20	S-1275	4 7/16
15▲	5.54	S-1276			4¾
16▲	5.90	S-1277	5.93	S-1278	5⅛
17▲	6.27	S-1279			5½
18▲	6.63	S-1280			5⅞
19▲	7.00	S-1281			6¼
20▲	7.37P	S-1282	7.37P	S-1282	6⅝
22▲	8.11P	S-1283	8.13	S-1284	7⅜
24▲	8.82	S-1287			8 1/16
26	9.55	S-1289			8¾
30	11.02	S-1290			10¼
32	11.75	S-1291			11
34	12.48	S-1293			11¾
36	13.21	S-1294	13.27	S-1295	12⅜
38	13.95	S-1296			13 5/16
41	15.05	S-1299	15.11	S-1300	14¼
43	15.78	S-1301			15
44	16.17P	S-1302	16.17P	S-1302	15⅜
45	16.54P	S-1303	16.54P	S-1303	15¾
48	17.61	S-1304			16⅞
55	20.21P	S-1307	20.21P	S-1307	19⅜
59	21.64	S-1308			20¾

No. 33

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5▲	2.37	S-1309	2.38	S-1310	1½
6▲	2.78	S-1311			1⅞
7▲	3.21	S-1312	3.22	S-1313	2½
8▲	3.63	S-1314			2⅞

No. 33 (Cont'd)

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
9▲	4.07	S-1315	4.08	S-1316	3¼
10▲	4.50	S- 104	4.52	S-1317	3¾
11▲	4.95P	S-1318	4.96	S-1319	4 3/16
12▲	5.38	S-1320	5.40	S-1321	4⅝
13▲	5.82	S-1322			5 1/16
14▲	6.25	S-1323	6.27	S-1324	5½
15▲	6.69	S-1325	6.72	S-1326	5 11/16
16▲	7.14P	S-1327	7.16	S-1328	6⅜
18▲	8.01P	S-1329	8.04	S-1330	7¼
19	8.45	S-1331	8.48	S-1332	7¾
22	9.78	S-1333	9.81	S-1334	9
24	10.66	S-1335			9⅞
26	11.54	S-1336			10¾
28	12.43	S-1339			11 11/16
32	14.20	S-1340	14.25	S-1341	13 7/16
34	15.08	S-1342	15.14	S-1343	14¼
36	15.97	S-1344	16.02	S-1345	15⅛
38	16.85	S-1346			16⅛
41	18.18	S-1347	18.25	S-1348	17 7/16
42	18.66P	S-1349	18.66P	S-1349	17⅞
54	23.93	S-1352	24.01	S-1353	23 3/16

No. 34

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
7▲	3.22	S-1354	3.23	S-1355	2⅜
9▲	4.09P	S-1356	4.09P	S-1356	3¼
10▲	4.51	S-1357			3 11/16
12▲	5.40P	S-1358	5.41	S-1359	4 9/16
13▲	5.83	S-1360	5.85	S-1361	5
14▲	6.27	S-1362			5 7/16
18	8.04	S-1363	8.06	S-1364	7¼
22	9.80	S-1365			9
27	12.02	S-1366	12.06	S-1367	11 3/16
36	15.97	S-1368			15⅛
45	20.00	S-1369			19 3/16
54	24.00	S-1370			23 3/16

Nos. 35 and 45

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
4▲			2.31	S-1420	1⅛
5▲	2.77	S-1421	2.78	S-1422	1⅝
6▲	3.25	S-1423	3.27	S-1424	2¼
7▲	3.76P	S-1121	3.77	S-1425	2¾
8▲	4.25	S-1426	4.27	S-1427	3¼
9▲	4.76	S-1428	4.78	S-1429	3¾
10▲	5.26	S- 323			4¼
11▲	5.78P	S-1430	5.79	S-1431	4¾
12▲	6.30P	S-1432	6.31	S-1433	5¼
13▲	6.80	S- 324	6.82	S-1434	5¾
14▲	7.31	S-1435	7.34	S-1436	6¼
15▲	7.83	S-1437	7.86	S-1438	6 13/16
16▲	8.34	S-1439	8.37	S-1440	7 5/16
17▲	8.85	S-1441	8.89	S-1442	7 13/16
18▲	9.39P	S-1443	9.40	S-1444	8⅜
19▲	9.88	S-1445	9.92	S-1446	8⅞
20▲	10.40	S-1447	10.44	S-1448	9⅜
21▲	10.91	S-1449	10.95	S-1450	9⅞
22	11.45P	S-1451	11.47	S-1452	10 7/16
24	12.47	S- 346	12.51	S-1454	11 7/16
26	13.50	S-1457			12½
28	14.53	S-1460	14.59	S-1461	13½
30	15.56	S-1462	15.62	S-1463	14½
31	16.08	S-1464	16.14	S-1465	15 1/16
34	17.67P	S-1466	17.67P	S-1466	16⅝
36	18.67	S- 345	18.74	S-1469	17½
38	19.70	S-1470			18 11/16
40	20.74	S- 329			19¾
42	21.77	S-1472	21.85	S-1473	20¾
44	22.85P	S-1474	22.85P	S-1474	21 13/16
46	23.84	S-1477	23.93	S-1478	22 13/16
48	24.88	S-1480	24.97	S-1481	23⅞
50	25.91	S-1482			24⅞
54	27.98	S-1483	28.08	S-1484	27
57	29.54	S-1485	29.64	S-1486	28½
58	30.05	S-1487			29
60	31.09	S-1488	31.20	S-1489	30

No. 42

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5▲	2.33	S-1371			1⅜
6▲	2.74	S-1372			1⅞
7▲	3.16	S-1373	3.18	S-1374	2 5/16
8▲	3.58	S-1375			2¾
9▲	4.01	S-1376	4.03	S-1377	3⅛
10▲	4.44	S-1378	4.46	S-1379	3⅝
11▲	4.87	S-1380	4.89	S-1381	4
12▲	5.30	S-1382			4½
13▲	5.73	S-1383	5.76	S-1384	4⅞
14▲	6.16	S-1385	6.19	S-1386	5 5/16
15▲	6.60	S-1387	6.63	S-1388	5¾
16▲	7.03	S-1389			6 3/16
17▲	7.47	S-1390	7.50	S-1391	6⅝
18▲	7.90	S- 337	7.93	S- 699	7 1/16
19▲	8.34	S-1392			7½
20	8.77	S-1393	8.81	S-1394	7 15/16
21	9.21	S- 700			8⅜
22	9.64	S-1395	9.68	S-1396	8 13/16
24▲	10.51	S- 383	10.56	S-1397	9 7/16
26▲	11.41P	S-1399	11.41P	S-1399	10 9/16
28	12.25	S-1402			11⅜
30	13.12	S-1404			12¼
32	14.00	S-1405	14.06	S- 566	13⅛
33	14.43	S-1406			13⅝
36	15.74	S-1407	15.81	S-1408	14¾
40	17.49	S-1409			16⅝
41	17.97P	S-1410	17.97P	S-1410	17⅛
46	20.11	S-1411	20.19	S-1412	19¼
50	21.85	S-1413	21.95	S-1414	21
53	23.16	S-1415			22 5/16
55	24.03	S-1416			23 3/16
56	24.47	S-1417			23⅝
59	25.78	S-1418	25.89	S-1419	24 15/16

No. 45, see No. 35

No. 48

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
8▲	5.27	S-1490			4⅛
10▲	6.53	S-1491			5½
12▲	7.80	S-1492			6¾
18	11.62	S-1493			10 9/16
27	17.39	S-1494			16⅜

No. 50

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
8▲	3.60	S-1495	3.62	S-1496	2 11/16
9▲	4.02	S-1497	4.05	S-1498	3⅛
12▲	5.32	S-1499			4 7/16
14▲	6.18	S-1500	6.22	S-1501	5¼
18▲	7.93	S-1502			7 1/16
19▲	8.36	S-1503			7½
34	14.92	S-1504			14 1/16
38	16.67	S-1505			15 13/16

No. 51

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5▲	1.96P	S-1506	1.96P	S-1506	1
6▲	2.30	S-1507			1 5/16
7▲	2.65	S-1508			1 11/16
8▲	3.02P	S-1509	3.02P	S-1509	2 1/16
9▲	3.37	S-1510			2⅜
10▲	3.74P	S- 124	3.75	S-1511	2¾
11▲	4.10P	S- 128	4.10P	S- 128	2⅞
12▲	4.46P	S-1512	4.46P	S-1512	3½
14▲	5.19P	S- 115	5.21	S-1513	4 3/16
15▲	5.54	S-1514			4 9/16
16▲	5.90P	S-1515	5.90P	S-1515	4 15/16
17▲	6.26	S-1516			5¼
18▲	6.63	S-1517			5⅝
20▲	7.35	S-1518			6 5/16
22	8.12P	S- 354	8.12P	S- 354	7⅛
25	9.19	S-1519	9.24	S-1520	8 9/16
27	9.95P	S-1521	9.98	S-1522	8 15/16
28	10.32P	S-1523	10.32P	S-1523	9 3/16
30	11.05P	S-1525	11.05P	S-1525	10

▲ Plate Center Wheels; all others have arms.
P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.

Detachable Link Chains

Cast Iron Sprocket Wheels for Detachable and Mey-Oborn Chains—(Cont'd)

Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

No. of Teeth	Driven: Pitch Diameter Ins.	Driven: Pattern No.	Driver: Pitch Diameter Ins.	Driver: Pattern No.	D Max. Dia. Hub or Lugs Ins.
No. 51 (Cont'd)					
32	11.75	S-1528			10 1/4
35	12.84	S-1529			11 11/16
38	13.95	S-1530			12 11/16
40	14.66	S-1531			13 5/8
44	16.19P	S-1532	16.19P	S-1532	15 1/16
45	16.51	S-1533			15 1/2
48	17.61	S-1534			16 5/16
50	18.34	S-1535			17 5/16
54	19.80	S-1536	19.92	S-1537	18 1/4
60	22.00	S-1538			21
No. 52					
6▲	3.00	S-1539			2
7▲	3.46	S-1540	3.48	S-1541	2 7/16
8▲	3.93	S-1542	3.95	S-1543	2 11/16
9▲	4.40P	S 786	4.40P	S- 786	3 1/8
10▲	4.86	S-1544			3 7/8
11▲	5.34P	S-1545	5.36	S- 336	4 5/16
12▲	5.82P	S-1546	5.83	S-1547	4 3/8
13▲	6.29P	S-1548	6.31	S- 593	5 1/4
14▲	6.75	S-1549	6.78	S-1550	5 3/4
15▲	7.24P	S-1551	7.26	S-1552	6 1/4
16▲	7.70	S- 441	7.75	S- 136	6 3/4
17▲	8.20P	S-1553	8.22	S-1554	7 5/16
18▲	8.65	S-1555	8.69	S-1556	7 5/8
19▲	9.15P	S-1557	9.17	S-1558	8 1/8
20	9.60	S- 595			8 9/16
21	10.10P	S-1559	10.13	S-1560	9 1/16
22	10.56	S- 439			9 1/2
23	11.06P	S-1561	11.06P	S-1561	10
24	11.54P	S-1562	11.54P	S-1562	10 1/2
26	12.46	S-1563	12.52	S-1564	11 7/16
28			13.48	S-1567	12 1/2
30	14.37	S- 334	14.44	S-1569	13 3/8
31	14.85	S-1570	14.92	S-1571	13 11/16
32	15.33	S-1572			14 1/16
34	16.32P	S-1574	16.36	S-1575	15 1/16
37	17.72	S- 681	17.80	S-1576	16 1/4
39	18.69	S-1577	18.78	S-1578	17 11/16
40	19.15	S-1579			18 1/8
42	20.24P	S- 126	20.20	S-1580	19 1/4
43	20.58	S-1581			19 1/2
46	22.07P	S-1582	22.07P	S-1582	21
49	23.45	S-1583	23.56	S-1584	22 5/16
50	23.93	S-1585	24.04	S-1586	22 13/16
52	24.88	S-1588			23 7/8
53			25.41	S-1589	24 5/16
57	27.27	S-1590	27.40	S-1591	26 1/4
No. 52 1/2 Heavy					
7▲	3.49	S-1593	3.51	S-1592	2 7/16
8▲	3.96	S-1595	3.98	S-1594	2 11/16
9▲	4.43	S-1596			3 3/8
11▲	5.38	S-1598	5.41	S-1597	4 5/16
12▲	5.85	S-1600	5.89	S-1599	4 3/8
13▲	6.33	S-1602	6.36	S-1601	5 1/4
15			7.33	S-1603	6 1/4
17	8.24	S-1605	8.29	S-1604	7 5/16
19	9.20	S-1607	9.25	S-1606	8 1/8
21	10.16	S-1608			9 1/16
25			12.16	S-1609	11
26			12.64	S-1610	11 1/16
29	14.01	S-1611			12 7/8
42	20.27	S-1612			19 1/16
52			25.23	S-1613	23 7/8
No. 55					
5▲	2.77	S-1614	2.78	S-1615	1 5/8
6▲	3.25	S-1616	3.27	S-1617	2 1/4
7▲	3.75	S-1618	3.77	S-1619	2 3/4
8▲	4.25	S-1620	4.27	S-1621	3 1/4
9▲	4.76	S-1622	4.78	S-1623	3 3/4
10▲	5.27	S-1624	5.29	S-1625	4 1/4
11▲	5.77	S-1626	5.79	S-1627	4 3/4
12▲	6.29	S-1628	6.31	S-1629	5 1/4
13▲	6.80	S-1630	6.82	S-1631	5 3/4
14▲	7.31	S-1632	7.34	S-1633	6 1/4
15▲	7.83	S-1634	7.86	S-1635	6 11/16
16▲	8.34	S-1636	8.37	S-1637	7 1/16
17▲	8.85	S-1638	8.89	S-1639	7 11/16
18▲	9.37	S-1640	9.41	S-1641	8 1/8
No. 55 (Cont'd)					
19▲	9.91P	S-1642	9.91P	S-1642	8 7/8
20▲	10.43P	S-1643	10.43P	S-1643	9 3/8
21	10.94P	S-1644	10.94P	S-1644	9 7/8
22	11.45P	S-1645	11.45P	S-1645	10 1/16
24	12.50P	S-1647	12.50P	S-1647	11 1/16
26	13.53P	S-1648	13.53P	S-1648	12 1/2
28	14.54	S- 111			13 1/2
30	15.60P	S-1649	15.60P	S-1649	14 1/2
32	16.64P	S-1650	16.64P	S-1650	15 1/2
34	17.67P	S-1651	17.67P	S-1651	16 5/8
36	18.71P	S-1652	18.71P	S-1652	17 1/2
38	19.75P	S-1653	19.75P	S-1653	18 11/16
40	20.79P	S-1654	20.79P	S-1654	19 3/4
42	21.83P	S-1655	21.83P	S-1655	20 3/4
44	22.86P	S-1656	22.86P	S-1656	21 11/16
46	23.90P	S-1657	23.90P	S-1657	22 11/16
48	24.94P	S-1658	24.94P	S-1658	23 7/8
50	25.98P	S-1659	25.98P	S-1659	24 7/8
Nos. 57 and 67					
5▲	3.90	S-1660			2 5/8
6▲	4.59P	S-1125	4.60	S- 613	3 1/4
7▲	5.28	S- 540	5.30	S-1661	4 1/8
8▲	5.99	S- 768	6.02	S-1662	5
9▲	6.70	S-1663	6.73	S-1664	5 3/4
10▲	7.42	S-1665	7.45	S-1666	6 3/8
11▲	8.13	S-1113	8.17	S-1667	7 1/8
12▲	8.85	S- 659	8.90	S-1668	7 7/8
13▲	9.60P	S-1669	9.62	S- 353	8 5/8
14	10.30	S-1670	10.35	S-1671	9 5/16
15	11.02	S- 696	11.07	S-1672	10
16	11.77P	S- 429	11.80	S-1115	10 3/4
17	12.47	S- 347	12.53	S- 517	11 1/2
18	13.20	S- 953	13.26	S- 333	12 1/4
19			13.99	S-1673	12 11/16
20	14.65P	S-1674	14.72	S-1675	13 11/16
21	15.38	S-1676	15.45	S-1677	14 3/8
22	16.10	S- 697	16.18	S-1678	15 1/8
24	17.56	S-1128	17.64	S-1681	16 1/2
26	19.01	S-1682			18
28	20.52P	S- 581	20.56	S-1685	19 1/2
30	21.92	S-1688	22.03	S- 539	20 11/16
32	23.44P	S- 382	23.49	S-1689	22 1/2
34	24.84	S-1691			23 7/8
36	26.29	S- 789	26.42	S-1692	25 1/4
38	27.76	S-1119	27.88	S-1693	26 3/4
40	29.21	S- 501	29.34	S- 771	28 1/4
41	29.94	S- 787	30.08	S-1695	28 11/16
43	31.40	S-1696	31.54	S-1697	30 3/8
44	32.12	S-1698			31 1/8
46	33.58	S-1699	33.74	S-1700	32 1/2
49	35.77	S- 636	35.94	S-1701	34 3/4
52	37.95	S-1702			36 11/16
54	39.41	S-1703	39.59	S-1704	38 3/8
60	43.79	S-1705			42 3/4
No. 62					
6▲	3.28	S-1706			2 1/8
7▲	3.79	S- 413	3.81	S-1707	2 11/16
8▲	4.29	S- 497	4.32	S-1708	3 5/16
9▲	4.80	S- 693	4.83	S-1709	3 3/4
10▲	5.32	S-1710	5.34	S-1711	4 1/4
11▲	5.85P	S-1712	5.86	S-1713	4 3/4
12▲	6.36P	S-1130	6.38	S-1714	5 1/4
13▲	6.86	S-1715	6.90	S-1716	5 3/4
14▲	7.40P	S-1717	7.40P	S-1717	6 1/4
15▲	7.92P	S- 758	7.94	S- 567	6 11/16
16▲	8.44P	S-1139	8.44P	S-1139	7 1/16
17▲	8.94	S-1718	8.99	S-1719	7 11/16
18▲	9.48P	S-1720	9.48P	S-1720	8 3/8
19▲	9.98	S-1112	10.03	S-1721	8 7/8
20	10.50	S-1722	10.56	S-1723	9 3/8
21	11.02	S-1724			9 7/8
22	11.54	S-1725	11.60	S-1726	10 1/16
24	12.59	S- 406	12.65	S- 405	11 1/2
26	13.63	S-1730			12 1/2
28	14.67	S-1732	14.75	S- 552	13 1/2
30	15.72	S-1129	15.80	S-1733	14 5/8
32	16.76	S- 692			15 5/8
34	17.85P	S- 725	17.85P	S- 725	16 3/4
No. 62 (Cont'd)					
38	19.90	S- 687	20.00	S-1734	18 1/4
39	20.44	S- 409			19 5/16
41	21.46	S-1735			20 3/8
42	21.98	S-1736			20 7/8
43	22.51	S-1737	22.62	S-1738	21 3/8
45	23.55	S-1739	23.67	S-1740	22 5/16
49	25.64	S-1741	25.77	S-1742	24 1/2
51	26.68	S-1743			25 5/16
57	29.82	S-1744	29.97	S-1745	28 3/4
58	30.34	S-1746	30.50	S-1747	29 1/4
No. 65					
9▲			6.24	S-1748	5
21	14.25	S-1749			13
No. 66					
6▲	4.02	S-1750			2 3/4
8▲	5.37	S-1751			4 1/8
9▲	5.87	S-1752			4 5/8
10▲	6.51P	S-1753	6.51P	S-1753	5 5/16
11▲	7.13	S-1754			5 5/16
12▲	7.76	S-1755			6 1/2
13▲	8.39	S-1756			7 5/16
14▲	9.03	S- 826			7 11/16
15▲	9.66	S-1757			8 5/16
16▲	10.30	S-1758			9 1/8
17▲	10.95P	S-1759	10.95P	S-1759	9 3/4
18▲	11.57	S-1760	11.62	S-1761	10 3/8
20	12.84	S- 803			11 5/8
22	14.15P	S-1764	14.15P	S-1764	12 11/16
24	15.42P	S-1765	15.42P	S-1765	14 1/4
25	16.03	S-1766			14 11/16
36	23.05	S-1767			21 11/16
46	29.44	S-1768			28 1/4
No. 67, See No. 57					
No. 72					
15▲	9.80	S-1769			8 3/8
18	11.73	S-1770			10 5/16
No. 72 1/2					
11▲	5.86	S-1713			4 1/4
13▲	6.90	S-1716			5 1/4
17▲	8.99	S-1719			7 1/4
23	12.13	S-1727			10 1/2
34	17.85P	S- 725	17.85P	S- 725	16 1/4
45	23.55	S-1739	23.67	S-1740	21 7/8
No. 75					
5▲*	4.43	S-1771	4.45	S-1772	3 1/8
6▲*	5.20	S-1773	5.23	S-1774	3 5/8
7▲*	6.00	S-1775	6.03	S-1776	4 11/16
8▲*	6.80	S-1777	6.83	S-1778	5 5/8
9▲*	7.61	S-1779	7.65	S-1780	6 3/8
10▲*	8.42	S-1781	7.46	S-1782	7 5/16
11▲*	9.24	S-1783	9.28	S-1784	8 5/16
12▲*	10.06	S-1785	10.10	S-1786	8 7/8
13*	10.87	S-1787	10.93	S-1788	9 1/16
14*	11.70	S-1789	11.75	S-1790	10 1/2
15*	12.52	S-1791	12.58	S-1792	11 3/8
16*	13.34	S-1793	13.41	S-1794	12 1/8
17*	14.16	S-1795	14.24	S-1796	13
18*	14.99	S-1797	15.07	S-1798	13 3/4
19*	15.85P	S-1799	15.85P	S-1799	14 5/8
20*	16.68P	S-1800	16.68P	S-1800	15 1/2
21*	17.51P	S-1801	17.51P	S-1801	16 3/8
22*	18.33P	S-1802	18.33P	S-1802	17 1/8
24*	19.99P	S-1804	19.99P	S-1804	18 3/4
26*	21.64P	S-1805	21.64P	S-1805	20 1/2
28*	23.30P	S-1806	23.30P	S-1806	22 1/8
30*	24.96P	S-1807	24.96P	S-1807	23 3/4
32*	26.62P	S-1808	26.62P	S-1808	25 1/2
34*	28.28P	S-1809	28.28P	S-1809	27 1/8
36*	29.93P	S-1810	29.93P	S-1810	28 3/4
38*	31.60P	S-1811	31.60P	S-1811	30 3/8
40*	33.25P	S-1812	33.25F	S-1812	32 1/8
42*	34.92P	S-1813	34.92P	S-1813	33 3/4
44*	36.57P	S-1814	36.57P	S-1814	35 3/8
46*	38.23P	S-1815	38.23P	S-1815	37
48*	39.89P	S-1816	39.89P	S-1816	38 3/4
50*	41.55P	S-1817	41.55P	S-1817	40 3/8

▲ Plate Center Wheels; all other have arms.
* Indicates Wheels which can be furnished with Chilled Rims.
P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.

Detachable Link Chains

Cast Iron Sprocket Wheels for Detachable and Mey-Oborn Chains—(Cont'd)

Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

No. of Teeth	Driven: Pitch Diameter Ins.	Driven: Pattern No.	Driver: Pitch Diameter Ins.	Driver: Pattern No.	D Max. Dia. Hub or Lugs Ins.
No. 76½					
7▲	4.77	S-1952			3⅛
12	7.76	S-1755			6½
No. 77					
6▲*	4.58	S-1818	4.60	S-1819	3
7▲*	5.28	S-1820	5.31	S-1821	3¾
8▲*	5.99	S-1822	6.02	S-1823	4½
9▲*	6.70	S-1824	6.73	S-1825	5⅛
10▲*	7.42	S-1826	7.45	S-1827	5⅞
11▲*	8.13	S-1828	8.17	S-1829	6⅝
12▲*	8.85	S-1830	8.89	S-1831	7 5/16
13▲*	9.58	S-1832	9.62	S-1833	8
14▲*	10.30	S-1834	10.35	S 1835	8¾
15*	11.02	S-1836	11.07	S-1837	9½
16*	11.75	S-1838	11.80	S-1839	10¼
17*	12.47	S-1840	12.53	S-1841	10⅞
18*	13.20	S-1842	13.26	S-1843	11⅝
19*	13.96P	S-1844	13.96P	S-1844	12⅛
20*	14.68P	S-1845	14.68P	S-1845	13⅝
21*	15.41P	S-1846	15.41P	S-1846	13⅞
22*	16.14P	S-1847	16.14P	S-1847	14⅝
24*	17.60P	S-1849	17.60P	S-1849	16
26*	19.06P	S-1850	19.06P	S-1850	17½
28*	20.52P	S-1851	20.52P	S-1851	19
30*	21.97P	S-1852	21.97P	S-1852	20⅛
32*	23.44P	S-1853	23.44P	S-1853	21⅞
34*	24.90P	S-1854	24.90P	S-1854	23⅜
36*	26.35P	S-1855	26.35P	S-1855	24¾
38*	27.82P	S-1856	27.82P	S-1856	26⅝
40*	29.28P	S-1857	29.28P	S-1857	27¾
42*	30.74P	S-1858	30.74P	S-1858	29¼
44*	32.20P	S-1859	32.20P	S-1859	30⅝
46*	33.66P	S-1860	33.66P	S-1860	32⅛
48*	35.12P	S-1861	35.12P	S-1861	33½
50*	36.58P	S-1953	36.58P	S-1953	35
Nos. 78 and 88					
5▲*	4.43	S-1908	4.45	S-1909	2½
6▲*	5.20	S- 411	5.23	S-1910	3¼
7▲*	6.00	S- 343	6.03	S-1911	4
8▲*	6.80	S- 632	6.83	S-1912	4 11/16
9▲*	7.61	S- 100	7.65	S- 101	5⅝
10▲*	8.42	S-1071	8.46	S-1913	6½
11▲*	9.26P	S-1028	9.26P	S-1028	7¼
12▲*	10.08P	S-1914	10.08P	S-1914	8
13▲*	10.90P	S-1915	10.93	S-1916	8⅞
14*	11.70	S- 798	11.75	S-1917	9¾
15*	12.52	S-1918	12.58	S-1919	10½
16*	13.34	S-1920	13.41	S-1921	11⅜
17*	14.16	S-1922	14.24	S-1923	12⅛
18*	14.99	S-1070	15.07	S-1924	13
19*	15.81	S- 885	15.89	S-1925	13 11/16
20*	16.64	S- 869	16.72	S- 362	14⅝
21*	17.46	S-1926	17.55	S-1927	15½
22*	18.29	S-1928	18.38	S-1929	16¼
24*	19.94	S- 393	20.04	S-1932	17 11/16
26*	21.59	S-1935	21.70	S- 661	19½
28*	23.30P	S-1937	23.30P	S-1937	21¼
30*	24.90	S- 932	25.02	S-1008	22⅞
32*	26.56	S- 399	26.69	S- 684	24½
34*	28.28P	S-1940	28.35	S-1941	26¼
36*	29.86	S- 604	30.01	S-1030	27⅞
38*	31.60P	S- 668	31.68	S-1943	29½
40*	33.17	S-1946	33.33	S-1947	31⅛
43*	35.66	S- 457	35.83	S- 683	33⅝
44*	36.48	S-1948	36.66	S- 858	34½
46*	38.14	S-1950	38.33	S-1951	36⅛
49*	40.62	S- 407	40.82	S- 706	38⅝
50*	41.45	S- 352	41.65	S- 708	39½
57*	47.24	S- 605	47.48	S- 903	45¼
60*	49.72	S- 985			47¾
No. 83					
5▲*	6.74	S-1862			4½
6▲*	7.92	S-1863	7.95	S-1864	6
7▲*	9.13	S-1865			7¼
8▲*	10.35	S-1866	10.39	S-1867	8⅝
9▲*	11.58	S-1868	11.62	S-1869	9¾
11*	14.06	S-1870			12⅜
12*	15.31	S-1871	15.36	S-1872	13½

No. of Teeth	Driven: Pitch Diameter Ins.	Driven: Pattern No.	Driver: Pitch Diameter Ins.	Driver: Pattern No.	D Max. Dia. Hub or Lugs Ins.
No. 83 (Cont'd)					
14*	17.80	S- 447	17.86	S-1873	16
16*	20.31	S-1874	20.37	S-1875	18½
19*	24.07	S-1876	24.15	S-1877	22⅜
20*	25.32	S-1878	25.41	S-1879	23⅝
24*	30.35	S-1880	30.45	S-1881	28⅝
28*	35.38	S-1882	35.50	S-1883	33⅝
32*	40.42	S-1884			38¾
38*	47.98	S-1885	48.14	S-1886	46¼
Nos. 85, 95					
5▲*	6.77	S-1887	6.79	S-1888	4½
6▲*	7.96	S-1889			6
8▲*	10.39	S- 369	10.43	S- 620	8⅜
9▲*	11.63	S-1890			9⅝
10▲*	12.87	S- 698	12.91	S-1891	10⅞
11*	14.12	S-1892	14.16	S-1893	12⅛
12*	15.39P	S-1894	15.39P	S-1894	13⅜
14*	17.90P	S-1114	17.93	S-1895	15⅞
15*	19.13	S- 398			17⅛
16*	20.39	S-1896	20.45	S-1897	18⅜
18*	22.94P	S-1898	22.98	S- 404	20 11/16
19*	24.16	S-1899	24.24	S-1900	22⅛
21*	26.69	S-1901	26.77	S-1902	24 11/16
22*	27.95	S- 384			26
23*	29.26P	S-1903	29.31	S-1904	27¼
26*	33.00	S- 559	33.10	S-1905	31
27*	34.26	S-1906	34.38	S-1907	32¼
32*	40.59	S-1144			38½
38*	48.17	S- 446			46⅛
47*	59.55	S-1019			57½
No. 88, See No. 78					
No. 88½					
11▲*	9.18	S-2104			7
12▲*	9.99	S-2106			7¾
14*	11.62	S-2108			9½
18*	14.89	S- 873			12¾
No. 103					
6▲*	6.14	S-1954	6.16	S-1955	3⅞
7▲*	7.09P	S- 704	7.10	S-1956	4¾
8▲*	8.04P	S-1957	8.05	S-1958	5¾
9▲*	8.99P	S-1036	8.99P	S-1036	6⅝
10▲*	9.95P	S-1959	9.97	S-1131	7⅝
11▲*	10.92P	S-1960	10.94	S-1961	8⅝
12▲*	11.85	S-1041	11.91	S-1962	9⅝
13▲*	12.85P	S-1963	12.88	S-1964	10½
14▲*	13.82P	S-1965	13.85	S-1966	11½
15▲*	14.79P	S- 114	14.79P	S- 114	12½
16▲*	15.76P	S- 728	15.76P	S- 728	13½
17▲*	16.74P	S-1967	16.78	S-1968	14⅜
18▲*	17.71P	S-1026	17.75	S-1969	15⅜
19*	18.68P	S-1970	18.73	S-1971	16⅜
20*	19.66P	S-1051	19.71	S- 713	17¼
21*	20.63P	S-1972	20.68	S-1973	18¼
22*	21.61P	S-1974	21.66	S-1975	19¼
24*	23.56P	S- 883	23.62	S-1099	21¼
26*	25.51P	S-1979	25.57	S- 508	23⅛
28*	27.40	S- 896	27.53	S-1035	25⅛
30*	29.35	S-1143	29.49	S-1982	27
32*	31.38P	S-1983	31.46	S- 494	29
34*	33.25	S-1984	33.41	S- 505	30⅞
36*	35.28P	S- 979	35.37	S-1985	32⅞
38*	37.15	S-1067	37.33	S-1986	34¾
40*	39.10	S-1987	39.29	S- 527	36¾
42*	41.05	S-1988			38⅝
44*	43.00	S-1126			40⅝
46*	44.95	S-1127			42⅝
49*	47.88	S-1111	48.11	S-1990	45½
55*	53.86P	S- 475	53.86P	S- 475	51 1/16
58*	56.66	S- 935			54¼
No. 104½					
7▲*	10.59	S- 318			7¾
9▲*			13.18	S- 511	10⅜
11*	15.94	S-1991	16.00	S- 610	13¼
14*	20.18	S-1992			17⅜
15*	21.60	S- 309			18⅞
16*	23.02	12473			20¼
17*	24.44	S-1993			21⅝
21*	30.13	S- 515			27⅜
33*	47.25	S-1994			44½

No. of Teeth	Driven: Pitch Diameter Ins.	Driven: Pattern No.	Driver: Pitch Diameter Ins.	Driver: Pattern No.	D Max. Dia. Hub or Lugs Ins.
No. 108					
6▲*	9.43	S-1046	9.45	S-1995	7
8▲*	12.31	S-1996	12.35	S-1997	9⅞
9▲*	13.78	S-1998	13.82	S-1999	11¼
10*	15.25	S- 306	15.30	S-2000	12¾
11*	16.73	S- 482	16.78	S- 870	14¼
12*	18.21	S-2001	18.27	S-2002	15¾
13*	19.69	S-2003	19.75	S-2004	17¼
14*	21.18	S-2005			18⅝
16*	24.15	S-2006	24.23	S-2007	21¾
18*	27.14	S-2008			24⅝
20*	30.13	S- 376	30.22	S- 949	27⅝
24*	36.10	S 2009	36.22	S-2010	33½
28*	42.09	S-2011			39½
29*	43.59	S- 431	43.73	S-2012	41
31*	46.58	S-2013	46.73	S-2014	44
No. 114					
5▲*			5.59	S- 916	2¾
6▲*	6.53	S-2015	6.57	S-2016	3¾
7▲*	7.53	S-2017			4¾
8▲*	8.54	S-2018	8.58	S-2019	5¾
9▲*	9.55	S- 616	9.60	S-2020	6¾
10▲*	10.57	S-2021	10.63	S- 454	7¾
11▲*	11.59	S-2022	11.65	S-2023	8¾
12▲*	12.62	S-1086	12.69	S-2024	9¾
13▲*	13.65	S- 767	13.72	S-2025	10¾
14*	14.68	S-1015	14.76	S-2026	11⅞
15*	15.71	S- 481	15.79	S-2027	12⅞
16*	16.74	S- 790	16.83	S-2028	13⅞
18*	18.81	S- 311	18.91	S-2029	16
20*	20.78P	S- 118	20.78P	S 118	18⅛
23*	23.99	S- 499			21⅛
24*	25.02	S-2033	25.16	S-1098	22¾
26*	27.10	S- 388			24⅜
30*	31.25	S- 498	31.41	S-2035	28½
32*	33.33	S-2036			30⅜
34*	35.41	S-1145	35.59	S-2037	32⅝
36*	37.48	S-2040	37.67	S-2041	34¾
38*	39.56	S- 648	39.77	S-2042	36¾
42*	43.72	S-1054	43.94	S-2043	41
46*	47.87	S-2044			45⅛
48*	49.94	S-1006			47⅛
57*	59.30	S- 917			56½
No. 122					
8*	15.94	S-2045			12½
9*	17.83	S-2046			14¼
10*	19.74	S-2047	19.80	S-2048	16¼
11*	21.65	S-2049			18⅛
12*	23.57	S-2050	23.65	S-2051	20
15*	29.33	S-2052			25¾
16*	31.26	S-2053			27¾
19*	37.05	S-2054	37.18	S-2055	33½
36*	69.97	S-2056			66¾
No. 124					
7▲*	9.37	S-2057			6
8▲*	10.62	S-2058	10.67	S-2059	7⅜
9▲*	11.88	S-2060	11.94	S-2061	8½
10▲*	13.15	S- 972	13.22	S-2062	10
11▲*	14.42	S-2063	14.50	S-2064	11¼
12▲*	15.70	S- 910	15.78	S-2065	12½
13*	16.98	S-2066	17.07	S-2067	13¾
14*	18.26	S-2068	18.35	S-2069	15
15*	19.55	S-2070	19.64	S-2071	16¼
16*	20.83	S-2072	20.93	S-2073	17½
17*	22.12	S- 317	22.23	S-2074	18⅞
18*	23.40	S-2075	23.52	S-2076	20⅛
20*	25.98	S- 772	26.11	S-2078	22½
22*	28.56	S-2079	28.70	S-2080	25¼
24*	31.13	S-2082	31.29	S-2083	27⅞
25*	32.43	S-1023			29¼
28*	36.30	S-1022	36.48	S-2084	33
30*	38.88	S-2085	39.07	S-2086	35⅜
32*	41.47	S 2087	41.68	S-2088	38¼
34*	44.05	S- 529			40¾
37*	47.92	S- 936			44½
38*	49.22	S- 884			46
46*	59.55	S-2089			56¼
51*	66.02	S 2090			62¾

▲ Plate Center Wheels; all others have arms.
* Indicates Wheels which can be furnished with Chilled Rims.
P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.

Detachable Link Chains

Steel Sprockets for Detachable and Mey-Oborn Chains

Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

No. 52

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
9▲	4.40P	17	4.41	937	3⅜
10▲			4.88	980	3⅞
12▲	5.83	S-1547			4⅜
15▲	7.26	S-1552			6¼
16▲			7.74	20	6 11/16
37	17.80	S-1576			16¾
42	20.11	938			19¼

No. 62

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
15▲	7.94	S- 567			6 11/16
16▲	8.44P	27597	8.44P	27597	7 1/16
25▲	13.14P	27596	13.14P	27596	12
38	19.90	379			18¾

No. 77

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
8▲	6.02	S-1823	6.02	551	4½
11▲	8.13	490	8.17	471	6⅝
12▲	8.89	S-1831	8.90	18873	7¼
14▲			10.35	36	8¾
16	11.75	550			10¼
18	13.26	S-1843			11⅝
19	13.92	473	13.99	472	12⅜
22	16.18	S-1678			14
28	20.47	467	20.56	639	19
30	22.03	S- 539			20½
33	24.11	466	24.22	640	22½
38	27.88	S-1693			26¼
41	30.08	S-1695			28½

No. 83

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
8▲	10.35	485	10.39	461	8⅝
9▲	11.58	724	11.62	649	9¾
14	17.80	484	17.86	462	16
16	20.31	463	20.37	483	18½
19	24.07	648			22⅜
28	35.38	482	35.50	464	33⅝

Nos. 85 and 95

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
8▲	10.43	S- 620			8⅜
9▲	11.63	449			9⅝
11	14.16	S-1893			12⅛
13	16.62	9409	16.67	445	14⅝
14	17.87	783	17.93	784	15⅞
18	22.98	S- 404			20 11/16
19	24.24	S-1900			22⅛
23	29.31	S-1904			27¼

Nos. 78 and 88

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲			5.23	522	3¼
7▲	6.00	4048	6.03	4045	4
8▲	6.83	S-1912			4 11/16
9▲	7.61	961			5⅝
10▲	8.42	611			6½
11▲	9.24	514	9.29	714	7¼
12▲	10.06	4041	10.11	4040	8
13▲	10.87	769			8⅞
14▲	11.75	S-1917	11.75	15940	9¾
15	12.52	592	12.58	548	10½
16	13.34	372			11⅜
17	14.16	404			12⅛
18	15.07	S-1924	15.07	794	13
20	16.64	670	16.72	591	14⅝
22	18.29	405	18.38	933	16¼
24	19.94	881			17 11/16
26	21.59	856			19½
28	23.25	927	23.30P	29108	21¼
29	24.07	370			22
30	24.90	580			22⅞
32	26.56	857			24½
34			28.35	930	26¼
36	30.01	S-1030			27⅞
38	31.52	858			29½
43	35.66	967	35.83	934	33⅝
45	37.31	912			35 5/16
49	40.62	968			38⅝
50			41.65	607	39½
57	47.24	93			45¼

No. 103

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲	6.14	474	6.16	713	3⅞
7▲	7.07	530			4¾
8▲	8.02	609	8.05	577	5¾
9▲			9.01	27342	6⅝
10▲	9.93	507	9.97	510	7⅝
11▲	10.94	S-1961			8⅝
12▲	11.85	656	11.91	612	9⅝
13▲	12.82	504	12.88	547	10½
14▲	13.85	S-1966	13.85	458	11½
15▲	14.79P	151	14.79P	151	12½
18	17.66	855	17.75	996	15⅜
19	18.64	669	18.73	890	16⅜
20	19.61	460			17¼
21	20.68	S-1973			18¼
22	21.61P	28628	21.61P	28628	19¼
24	23.62	S-1099	23.62	33	21¼
26	25.51P	28629	25.51P	28629	23⅛
28	27.40	57	27.53	573	25⅛

No. 103 (Cont'd)

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
30	29.35	689			27
32	31.38P	29021	31.38P	29021	29
36	35.09	459	35.37	32	32⅜
38	37.24P	29255	37.33	867	34¾
41	40.18P	613	40.18P	613	37¾
45	44.19	S-1989			41⅛
49	47.88	614	48.11	673	45½

No. 104½

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
11	16.00	S- 610			13¾
33	47.25	979			44½

No. 108

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲			9.45	109	7
8▲			12.35	999	9⅞
9	13.82	S-1999			11¼
11	16.73	1000			14¼
12	18.21	574			15¾
13	19.75	S-2004	19.75	998	17¾
14	21.18	785			18⅜
16	24.23	S-2007	24.23	657	21¾
20	30.22	S- 949	30.22	26127	27⅛
24	36.10	786			33½
32	48.08	658			45½

No. 114

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
11	11.59	61629			8¾
12	12.62	61630			9¾
13▲	13.65	447			10¾
14	14.68	610	14.76	772	11⅞
16	16.74	477			13⅞
18▲	18.81	777			16
23	23.99	406			21⅛
35	36.63	S-2039			33⅛
36	37.67	S-2041			34¾

No. 122

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
10	19.80	S-2048			16¼
12	23.65	S-2051			20
19	37.05	455	37.18	454	33½

No. 124

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
8▲	10.67	S-2059			7⅜
9▲	11.91P	643	11.91P	643	8½
11▲			14.50	513	11¾
12▲	15.78P	S-2065	15.78P	S-2065	12½
14	18.35	S-2069			15
17	22.12	61			18⅞
20	26.11	S-2078			22½
22	28.70	S-2080			25½
28	36.48	S-2084			33
38	49.22	512			46
51	66.02	519			62¾

▲ Plate Center Wheels; all others have arms.
P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.

Flanged Idlers for Detachable Chains

Furnished in Cast Iron, Chilled Rim and Cast Steel—Prices on Application

Single Flanged Idlers

Chain	Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
Nos. 67, 75 and 77	8¼	2	29664
	12⅛	1¼	29670
	19	1½	29657
	20¼	1⅝	29642
	37½	¾	29645
Nos. 78 and 88	8⅛	⅞	29660
	12⅛	1½	29686
	14⅜	1 1/16	29697
	16¾	1 5/16	29669
	18¼	1	29691
	22	2	29635
	24	1½	29641
	30⅜	1	29651
No. 83	10	1 1/16	8200
	15¼	1	29685
	22⅜	1⅜	26825
Nos. 85, 95 and 104½	18⅛	1¼	29693
	24¼	1¼	29644
No. 103	10	1 1/16	8200
	22⅜	1⅜	26825
	31⅜	2½	29652
No. 108	12⅛	⅝	29682
Nos. 114 and 124	18⅛	1¼	29693

Double Flanged Idlers††

Chain	Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
Nos. 57, 62 and 66	8	15/16	29663
	10 3/16	1 1/16	29673
	20	1 1/16	29690
	23 7/16	1¼	29629
Nos. 67, 75 and 77	12¼	13/16	29688
	16¼	⅞	29689
	18	1⅛	29630
	20	1⅛	29637
	23⅛	1 3/16	29654
Nos. 78 and 88	11	1½	29681
	12⅛	1¼	29658
	18	1½	29694
Nos. 85 and 95	12⅛	1 7/16	29672
	13⅛	1¼	29684
No. 104½	13⅛	1¼	29684
	18⅛	1½	13210
	22⅛	1½	29627
	26	1⅜	29628
No. 108	12	⅞	29666
No. 114	18⅛	1½	13210
	22⅛	1½	29627
	26	1⅜	29628
No. 124	13⅛	1¼	29684

††Not furnished in Chilled Rim for Double Flanged Idlers. †In use of Idlers note that Depth of Flange clears back of Attachment used.

Flanged Idlers for Mey-Oborn Chains on Application

Traction Wheels

Made of Cast Iron with Chilled Rim

For Detachable Link, Mey-Oborn, Reliance, Pintle, Hercules, Peerless and Atlas Chains.

For List Price—See Price List Bulletin

No. 2 Pintle

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
10	62254	9
12	62255	11
14	62256	13¼
16	62257	15¼
18	62258	17¼
20	62259	19¼
22	62260	21¼
24	62261	23⅜
26	62262	25⅜
30	62263	29¼

No. 60 Reliance

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
10	62240	9¼
12	62241	11¼
14	62242	13¼
18	62243	17¼
20	62244	19¼
24	62245	23¼

Nos. 67 and 77 Detachable

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
10	62240	9¼
12	62241	11¼
14	62242	13¼
18	62243	17¼
20	62244	19¼
24	62245	23¼

Nos. 73, 74 and 78 Reliance

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
10	62254	9
12	62255	11
14	62256	13¼
16	62257	15¼
18	62258	17¼
20	62259	19¼
22	62260	21¼
24	62261	23⅜
26	62262	25⅜

No. 75 Reliance

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
10	62254	9
12	62255	11
14	62246	13
16	62247	15
18	62248	17
20	62249	19
22	62250	21
24	62251	23
26	62252	25

No. 82 Reliance

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62282	9½
14	62283	11¼
16	62284	14
18	62274	16¾
20	62275	18¾
22	62276	20¾
24	62277	22¾
26	62278	24¾
28	62279	26¾
30	62280	28¾

Nos. 78, 83, 88 Detachable

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
10	62254	9
12	62255	11
14	62246	13
16	62247	15
18	62248	17
20	62249	19
22	62250	21
24	62251	23
26	62252	25
30	62253	29

Nos. 85, 95 Detachable

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62304	9⅛
14	62293	12⅞
16	62294	14⅞
18	62295	16⅞
20	62296	18⅞
24	62297	22⅞
28	62298	26⅞
30	62299	28⅞

No. 87 Reliance

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
16	62382	14¾
18	62383	16¾

No. 87 Reliance—Cont'd.

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
20	62384	18¾
24	62385	22¾
28	62386	26¾
30	62387	28¾

No. 95 Reliance

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62304	9⅛
14	62305	12¼
16	62306	14⅜
18	62307	16½
20	62300	18⅝
24	62301	22¾
28	62302	26⅞
30	62303	28⅞

Nos. 102, 102-B, 110 Hercules

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62304	9⅛
14	62305	12¼
16	62306	14⅜
18	62307	16½
20	62300	18⅝
24	62301	22¾
28	62302	26⅞
30	62303	28⅞

No. 102½ Hercules

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62304	9⅛
14	62305	12¼
16	62306	14⅜
18	62307	16½
20	62308	18⅝
24	62309	22¾
28	62310	26⅞
30	62311	28⅞

Nos. 103, 114, 124 Detachable

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62282	
14	62264	12¾
16	62265	14¾
18	62266	16¾
20	62267	18¾
22	62268	20¾
24	62269	22¾
26	62270	24¾
28	62271	26¾
30	62272	28¾
36	62273	34¾

No. 104½ Detachable

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
16	62382	14¾
18	62383	16¾
20	62384	18¾
24	62385	22¾
28	62386	26¾
30	62387	28¾

No. 108 Detachable

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62326	9⅛
14	62327	11½
16	62328	13⅝
18	62312	16⅞
20	62313	18⅞
22	62314	20⅞
24	62315	22⅞
26	62316	24⅞
28	62317	26⅞
32	62318	30⅞
36	62319	34⅞

Nos. 111, 111 Sp. Hercules

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62326	9⅛
14	62327	11½
16	62328	13⅝
18	62329	15¾
20	62330	17¾
22	62320	20¼
24	62321	22⅜
26	62322	24⅜
28	62323	26½
32	62324	30½
36	62325	34⅝

No. 122 Detachable

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
18	62337	16⅝
20	62338	18⅝
22	62339	20⅝
28	62340	26⅝
30	62341	28⅝
34	62342	32⅝

No. 124 Reliance

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
16	62388	13⅝
18	62389	15¾
20	62390	17¾
24	62391	21⅞
28	62392	25⅞
30	62393	28

No. 131 Hercules

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62282	9½
14	62283	11¼
16	62284	14
18	62274	16¾
20	62275	18¾
22	62276	20¾
24	62277	22¾
26	62278	24¾
28	62279	26¾
30	62280	28¾
36	62281	34⅞

No. 132 Hercules

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
18	62343	15⅜
20	62344	17½
22	62345	19⅝
28	62346	25¾
30	62347	27¾
34	62348	31¾

No. 188 Hercules

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
10	62254	9
12	62255	11
14	62256	13¼
16	62257	15¼
18	62258	17¼
20	62259	19¼
22	62260	21¼
24	62261	23⅜
26	62262	25⅜
30	62263	29¼

No. H-567 Pintle

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
10	62240	9¼
12	62241	11¼
14	62242	13¼
18	62243	17¼
20	62244	19¼
24	62245	23¼

Nos. 620, 631 and 730 Atlas

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62282	9½
14	62283	11¾
16	62284	14
18	62285	16
20	62286	18⅛
22	62287	20¼
24	62288	22¼
26	62289	24⅜
28	62290	26⅛
30	62291	28⅜
36	62292	34½

No. 710 Atlas

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62326	9⅛
14	62327	11½
16	62328	13⅝
18	62312	16⅞
20	62313	18⅞
22	62314	20⅞
24	62315	22⅞
26	62316	24⅞
28	62317	26⅞
32	62318	30⅞
36	62319	34⅞

No. 744 Atlas

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62304	9⅛
14	62305	12¼
16	62306	14⅜

No. 744 Atlas—Cont'd

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
18	62307	16½
20	62308	18⅝
24	62309	22¾
28	62310	26⅞
30	62311	28⅞

No. 823 Peerless

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62282	9½
14	62283	11¾
16	62284	14
18	62274	16¾
20	62275	18¾
22	62276	20¾
24	62277	22¾
26	62278	24¾
28	62279	26¾
30	62280	28¾
36	62281	34⅞

Nos. 825 and 830 Peerless

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62282	9½
14	62283	11¾
16	62284	14
18	62285	16
20	62286	18⅛
22	62287	20¼
24	62288	22¼
26	62289	24⅜
28	62290	26⅛
30	62291	28⅜
36	62292	34½

No. 835 Peerless

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62326	9⅛
14	62327	11½
16	62328	13⅝
18	62329	15¾
20	62330	17¾
22	62320	20¼
24	62321	22⅜
26	62322	24⅜
28	62323	26½
32	62324	30½
36	62325	34⅝

No. 843 Peerless

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
16	62388	13⅝
18	62389	15¾
20	62390	17¾
24	62391	21⅞
28	62392	25⅞
30	62393	28

No. 844 Peerless

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62326	9⅛
14	62327	11½
16	62328	13⅝
18	62329	15¾
20	62330	17¾
22	62331	20
24	62332	22
26	62333	24⅛
28	62334	26⅛
32	62335	30⅛
36	62336	34¼

No. 847 Peerless

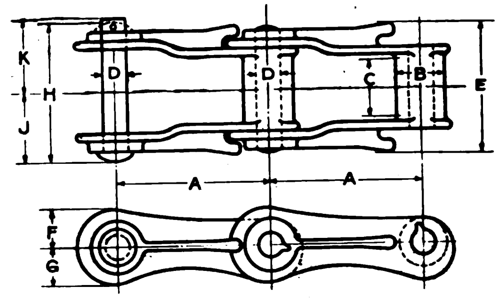
Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
18	62343	15⅜
20	62344	17½
22	62345	19⅝
28	62346	25¾
30	62347	27¾
34	62348	31¾

No. 4103 Pintle

Outside Diam.	Pattern No.	Max. Diam. of Hub or Lugs In.
12	62282	9½
14	62283	11¾
16	62284	14
18	62285	16
20	62286	18⅛
22	62287	20¼
24	62288	22¼
26	62289	24⅜
28	62290	26⅛
30	62291	28¼
36	62292	34½

"Mey-Oborn" Detachable Chains

Work over Detachable Chain Sprocket Wheels, pages 457 to 460



THE Mey-Oborn Chain is primarily a light drive chain and is the first step removed from the Detachable Chain by having a separable pin. Its particular feature is that the chain is so assembled as to positively retain its pin in place without having a head on one end or being riveted over on the other end. This feature makes the chain quite easy to install but somewhat limited to those conditions which are about free from abrasive grit or dirt.

When used in connection with its attachments the Mey-Oborn Chain ordinarily serves as an elevator with single or double strands of chain for the finer loose materials or as a flat conveyor with slats at intervals for handling cans, cartons and light merchandise.

For List Price—See Price List Bulletin

Chain No.	Approx. Links in 10 Feet	Approx. Weight per Foot Lbs.	‡ Working Strength in Lbs. at 150 F. P. M.	§ Max. Speed Ft. per Min.	Average Ultimate Strength Lbs.	A Pitch Inches	B Diam. of Barrel	C Max. Width of Sprocket	D Diam. of Pin	E Over-all	F	G	H	Coupling J	Coupling K
42*	87.5	1.09	480	700	3000	1.375	.562	5/8	15/64	1 9/16	3/8	3/8	1 3/4	7/8	1
52*	80	1.48	610	600	4750	1.506	.688	5/8	9/32	1 21/32	13/32	7/16	1 7/8	15/16	1 3/16
55*	74	1.40	600	600	4925	1.631	.718	11/16	9/32	1 21/32	7/16	7/16	1 7/8	15/16	1 1/16
57*	52	1.46	690	600	5800	2.308	.812	3/4	19/64	1 29/32	7/16	1/2	2	1	1 3/16
62*	73	1.92	850	600	5850	1.654	.812	11/16	21/64	1 15/16	15/32	1/2	2 1/16	1	1 1/4
67*	52	1.68	780	600	6000	2.308	.812	11/16	21/64	2	1/2	9/16	2 1/16	1	1 1/4
77½*	52	2.32	1090	600	8300	2.297	.718	11/16	23/64	1 15/16	9/16	9/16	2 3/16	1 3/32	1 1/4
† 83	30	3.1	1900	500	11425	4.000	.938	1 1/16	1/2	2 15/16	3/4	11/16	3 1/4	1 5/8	1 7/8
† 85	30	3.95	2250	500	13500	4.000	.968	1 7/8	1/2	4 1/32	11/16	3/4	4 3/16	2 3/32	2 3/8
† 88*	46	2.63	1390	500	8300	2.609	.876	15/16	7/16	2 1/2	1/2	5/8	2 3/4	1 3/8	1 5/8
†103	39	5.29	2250	500	13530	3.075	1.218	1 1/8	19/32	3 1/16	3/4	7/8	3 1/2	1 3/4	1 15/16
†108	25.5	5.18	2470	400	14800	4.720	1.126	2 3/8	19/32	4 19/32	13/16	15/16	4 13/16	2 13/32	2 5/8
†124	30	11.77	6660	300	40000	4.063	1.718	1 1/4	7/8	4 1/16	1 7/8	1 3/8	4 9/16	2 9/32	2 7/16

* Indicates Malleable Double Dowel Pin.

† Indicates Steel Double Dowel Pin.

All sizes can be furnished riveted or with coupling pins and cotters. Unless otherwise specified, chain will be furnished with double dowel pins as indicated; No. 88 with Malleable Double Dowel.

‡Working strength in table increased or decreased for speeds other than 150 feet per minute. See table page 429.

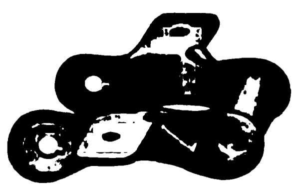
§Economical Speeds are not over half of maximum speeds.

For proper direction to run chain, see pages 428 and 429.

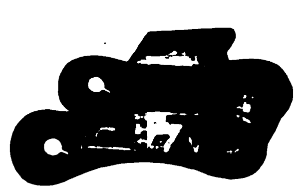
Attachments—Made on Order Only

F-2

G-1



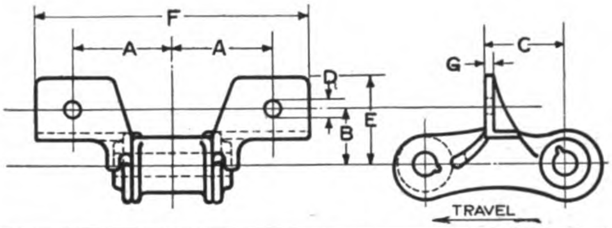
K-1



K-2

"Mey-Oborn" Detachable Chains

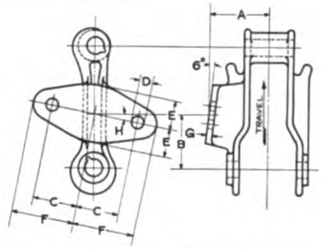
Attachments



F-2 Attachment

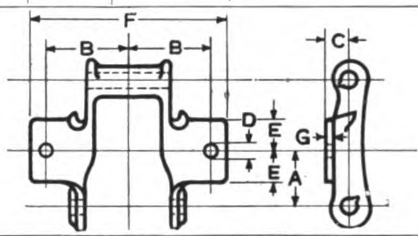
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	Attachment Name
Made on Order Sizes	77 1/2	1 5/8	1 1/32	1 1/4	5/16	Round—Straight	1 3/8	4 1/16	5/32	F-2 Special
	88	1 15/16	1 1/16	1 9/16	5/16	" "	1 11/16	5 1/4	3/16	F-2
	103	2 3/8	1 15/32	1 5/8	3/8	" "	2 1/16	6 1/4	1/4	F-2

Can be furnished either Right or Left Hand. Left Hand shown



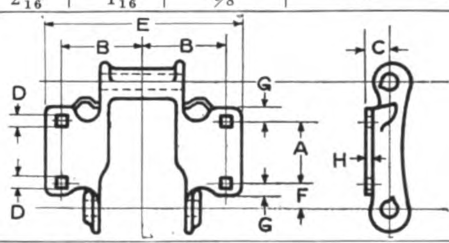
G-1 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Made on Order Size	83	1 15/16	1 3/4	1 7/16	3/8	Round—Straight	15/16	2 1/16	3/16	12°



K-1 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Made on Order Sizes	42	3/4	1 3/16	5/8	1/4	Round—Straight	3/8	3	1/8
	52	7/8	1 9/32	5/8	1/4	" "	3/8	3 1/4	1/8
	55	13/16	1 1/4	5/8	1/4	" "	3/8	3 1/8	1/8
	62	31/32	1 9/32	13/16	1/4	" "	7/16	3 5/16	1/8
	83	1 25/32	1 31/32	15/16	5/16	Square—Countersunk	3/4	5 3/8	5/32
	85	1 23/32	2 7/16	7/8	3/8	Round—Straight	13/16	6 3/8	5/32
	88	1 5/16	1 13/16	15/16	5/16	Square—Countersunk	5/8	4 5/8	3/16
	103	1 3/4	2 7/16	1 1/8	7/16	Round—Straight	3/4	6 1/8	1/4
	124	2 5/16	2 15/16	1 3/16	5/8	" "	1 1/8	7 7/8	3/8



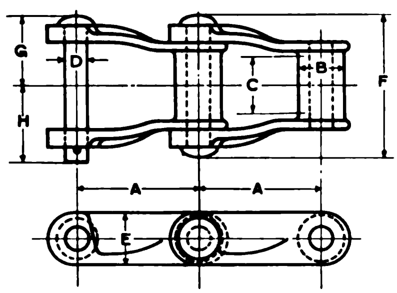
K-2 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Made on Order Sizes	83	1 5/16	2 1/8	27/32	5/16	Square—Countersunk	5 3/16	1 17/32	1/2	3/16
	85	1 3/4	2 11/16	15/16	3/8	Round—Straight	6 5/16	1 13/32	1/2	3/16
	103	1 5/8	2 5/8	1	3/8	" "	6	1 7/16	7/16	1/4
	108	2 3/8	3 1/8	15/16	3/8	Square—Countersunk	7 1/4	1 1/16	1/2	1/4

Reliance Riveted Chains

RELIANCE Chain is the natural outgrowth of both the Detachable and Mey-Oborn Chains to meet those conditions of service, where increased speed and shock have called for a more durable chain than either the Detachable or Mey-Oborn types.

Reliance Chains are well adapted to elevator service of moderate speeds under ordinarily clean or semi-gritty conditions and are popular as drive chains. Reliance chains are made of malleable iron and assembled with steel rivets.



Often conditions call for an increase in the carrying capacity of conveyor, elevator or drive, thus making the Reliance Chain an excellent substitute for the lighter Detachable or Mey-Oborn Chains with but very little change in the equipment.

Note—Reliance Chains were primarily designed to fit wheels for Jeffrey Detachable Chains as noted in table below, and are often run interchangeably on the same wheels. Satisfactory results are, however, assured only when Standard "Reliance" Chain Wheels are used. See page 468. For proper direction to run chain, see pages 428, 429.

Made Up with Riveted Pins as shown unless otherwise Ordered

For List Price—See Price List Bulletin

Chain No.	Approx. Links in 10 ft. of Chain	Approx. Weight per Ft.	‡Working Strength in Lbs at 150 Ft. per Min.	** Max. Speed Feet per Minute	Works on Sprocket Number	A Pitch Inches	B Diam. of Barrel	C Max. Width of Sprocket	D Diam. of Pin	E	F Overall Riveted Chain	Chain with Coupling Pins G	H
60	**52**	**2.15**	**1100**	**600**	**60**	**2.308**	**.75**	3/4	5/16	3/4	2 3/8	1 3/16	1 5/16
60H	52	2.25	1300	600	60	2.308	.75	3/4	3/8	15/16	2 13/32	1 7/32	1 11/32
73	51	4.00	2000	500	73	2.353	1.000	1 1/8	7/16	1 1/8	2 15/16	1 15/32	1 9/16
74	**46**	**3.10**	**1500**	**600**	**78Det.**	**2.609**	**.876**	1	3/8	1	2 5/8	1 5/16	1 7/16
75	**46**	**2.15**	**1200**	**600**	**75**	**2.609**	**.718**	1	5/16	3/4	2 11/16	1 11/32	1 1/2
78	**46**	**4.20**	**2300**	**500**	**78Det.**	**2.609**	**.876**	1 1/8	1/2	1 1/8	3 1/32	1 1/2	1 5/8
82	**39**	**5.50**	**3000**	**500**	**103Det.**	**3.075**	**1.218**	1 1/4	9/16	1 1/4	3 21/32	1 13/16	1 15/16
87	30	7.00	3800	400	87	4.000	1.374	1 1/2	5/8	1 3/8	4 1/32	2	2 3/16
95	30	5.08	2700	400	95	4.000	1.126	1 7/8	1/2	1 3/16	4 1/16	2 1/32	2 1/8
124	**30**	**8.50**	**5000**	**300**	**124**	**4.000**	**1.436**	1 5/8	3/4	1 9/16	4 23/32	2 3/8	2 1/2

BOLD FACE TYPE INDICATES CARRIED IN STOCK SIZES to cover all reasonable demands; all others subject to occasional delays.

‡**Working Strengths in Table** are increased or decreased for speeds other than 150 ft. per min. See page 429. Use but half of values thus obtained for service in gritty materials.

****Economical Speeds** are half of maximum speeds.

Jeffrey Pintle Chain

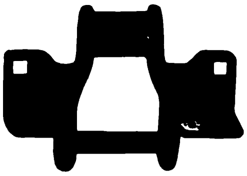
A Medium Priced Closed Joint Chain. This chain is interchangeable with similar chains of other makes. Very extensively used for drives and light elevator service.

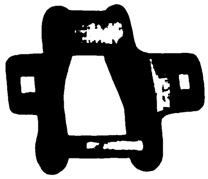
For List Price—See Price List Bulletin

Chain No.	Approx. Links in 10 Feet	Approx. Weight per Foot	Working Strength in Lbs at 150 Feet per Min.	Max. Speed Feet per Minute	Works on Sprocket Number	A Pitch in Inches	B Diam. of Barrel	C Max. Width of Sprocket	D Diam. of Pin	E	F Overall Riveted Chain	Chain with Coupling Pins G	H
1	59	2.80	2000	600	1 Pintle	2.028	7/8	9/16	1/2	1 1/8	2 9/32	1 5/32	1 5/16
2	73	2.50	1500	600	2 Pintle	1.643	11/16	1	7/16	1	2 3/8	1 3/16	1 5/16
442	**88**	**1.40**	**1000**	**700**	**42-Det.**	**1.375**	9/16	5/8	5/16	3/4	1 7/8	15/16	1 1/16
455	**74**	**1.90**	**1220**	**700**	**55-Det.**	**1.630**	5/8	11/16	3/8	27/32	2 1/16	1 1/32	1 5/32
462	**73**	**2.50**	**1500**	**600**	**62-Det.**	**1.634**	23/32	7/8	7/16	15/16	2 3/8	1 3/16	1 5/16
H-567	**56**	**1.95**	**1200**	**600**	**H-567**	**2.160**	3/4	11/16	3/8	1	2 1/8	1 1/16	1 3/16
H-630	**73**	**2.25**	**1500**	**600**	**H-630**	**1.632**	3/4	13/16	7/16	7/8	2 5/16	1 5/32	1 9/32
1152	**80**	**2.00**	**1100**	**600**	**52-Det.**	**1.506**	11/16	11/16	3/8	15/16	1 29/32	31/32	31/32
4103	**39**	**5.20**	**5500**	**500**	**103-Det.**	**3.075**	1 7/32	1 1/8	3/4	1 1/2	3 1/4	1 5/8	1 11/16

Reliance Riveted Chains

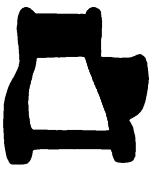
Attachments

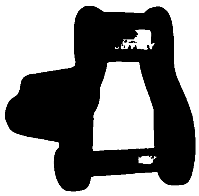

F-4

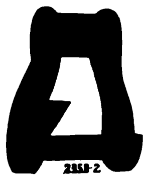

K-1

K-2


H-1
H-2 same as H-1 with Spur Reversed on Link

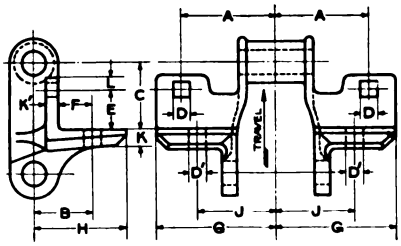

G-1


G-6



R-1

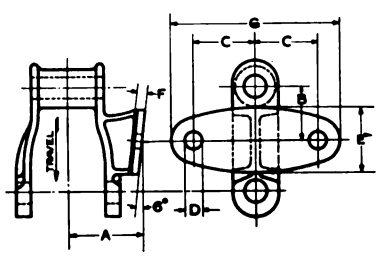
RR



F-4 Attachment

Class	Chain No.	A	B	C	D		D¹		E	F	G	H	J	K	K¹	L
					Diam. of Bolts	Kind of Holes	Diam. of Bolts	Kind of Holes								
Carried in Stock Sizes	60	1 31/32	1 1/4	1 7/16	5/16	Square	3/8	Round	3/4	7/8	2 1/8	1 7/8	1 17/32	9/32	7/32	13/32
	74	2 1/16	1 3/8	1 7/16	5/16	"	3/8	"	3/4	7/8	2 15/32	2 1/8	1 5/8	3/8	1/4	13/32
	75	1 7/8	1 1/8	1 11/16	5/16	"	5/16	"	3/4	3/4	2 11/32	1 3/4	1 7/16	5/16	3/16	13/32
	78	2 1/4	1 7/16	1 5/8	3/8	"	3/8	"	15/16	7/8	2 7/8	2 3/16	1 7/8	3/8	1/4	3/8
	82	2 1/2	1 1/2	1 13/16	3/8	"	3/8	"	7/8	7/8	2 29/32	2 5/16	2 1/16	3/8	9/32	3/8
	124	2 5/8	1 5/8	2 1/2	3/8	"	3/8	"	1 1/16	7/8	3 1/16	2 7/8	2 3/16	1/2	9/32	17/32
Made on Order Sizes	73	2 3/16	1 1/2	1 11/32	5/16	Square	3/8	Round	3/4	7/8	2 9/16	2 3/16	1 3/4	3/8	1/4	5/16
	87	2 5/8	1 5/8	2 5/8	3/8	"	3/8	"	1 3/16	7/8	5 3/4	2 9/16	2 1/8	1/2	1/4	7/16
	95	1 31/32	1 1/2	2 1/8	3/8	"	3/8	"	1	7/8	3 1/8	2 1/4	2 3/8	7/16	1/4	7/16

Can be furnished either Right or Left Hand. Right Hand Shown



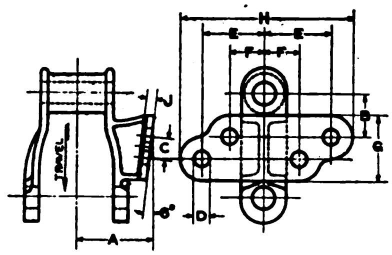
G-1 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Made on Order Size	78	1 3/4	1 9/32	1 5/16	5/16	Round—Straight	1 3/16	3/16	3 1/4

Reliance Riveted Chains

Attachments

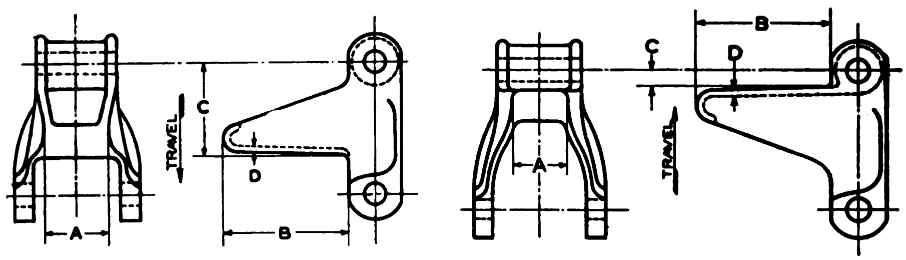
G-6 Attachment



Can be furnished either Right or Left Hand Right Hand shown

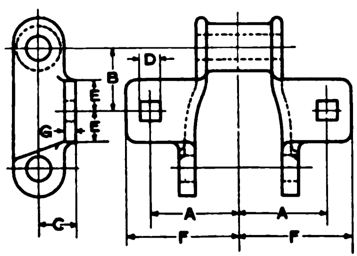
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J
Made on Order Size	78	1¾	1 3/32	9/16	¼	Round—Straight	1 17/32	⅞	1 11/16	4⅛	¼

H-1 H-2 Attachments



H-1						H-2					
Class	Chain No.	A	B	C	D	Class	Chain No.	A	B	C	D
Carried in Stock Sizes	74	1 3/32	2½	1 21/32	⅛	Carried in Stock Sizes	60	1	2 1/16	3/16	3/32
	75	1 1/16	2⅝	1 29/32	⅛		74	1 3/32	2 11/16	¼	⅛
	78	1⅛	3 1/16	2⅛	⅛		75	1 1/16	2 9/16	3/16	⅛
							78	1⅛	2 15/16	5/16	⅛
						Made on Order Size	73	1 7/32	3	7/32	⅛

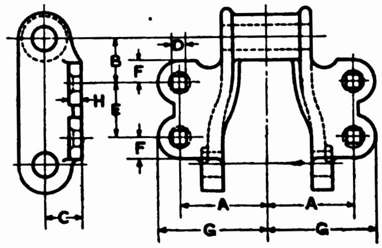
K-1 Attachment



Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Carried in Stock Sizes	60	1½	1¼	¾	5/16	Square—Countersunk	9/16	2 1/32	3/16
	74	1 7/16	1 11/32	11/16	5/16	" "	9/16	2	7/32
	75	1 13/32	1 11/32	⅝	5/16	" "	25/32	2	5/32
	78	2	1 11/32	13/16	⅜	Square—Straight	11/16	2 15/32	7/32
Made on Order Sizes	73	2	1 5/32	⅞	⅜	Square—Straight	⅝	2 3/16	3/16
	82	2 3/32	1 9/16	15/16	⅜	Square—Countersunk	⅞	2 11/16	7/32

Reliance Riveted Chains

Attachments

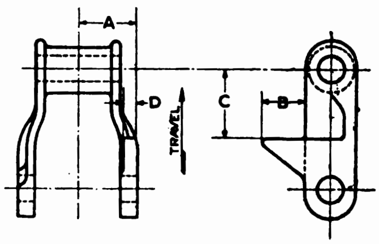


K-2 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Carried in Stock Sizes	82	2 1/8	1	7/8	3/8	Square—Countersunk	1 5/16	1/2	2 11/16	5/16
	124	2 5/8	1 3/16	1 3/16	3/8	Square—Straight	1 15/16	1/2	3 1/4	5/16
	*4103	2 1/16	25/32	27/32	1/2	Round—Straight	1 1/2	19/32	2 21/32	3/16
Made on Order Sizes	87	2 5/8	1 3/16	1 3/16	3/8	Square—Straight	1 15/16	19/32	3 1/8	3/16
	95	2 19/32	1 1/2	13/16	3/8	Square—Countersunk	1 3/4	9/16	3 3/32	1/4

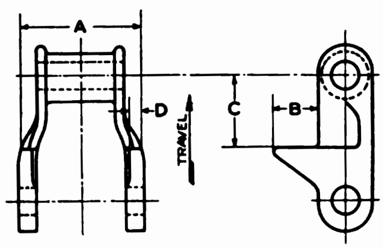
*Pintle Chain Attachment

Can be furnished either Right or Left Hand Right Hand shown



R-1 Attachment

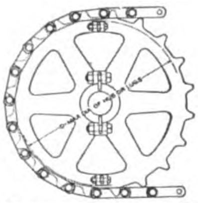
Class	Chain No.	A	B	C	D
Carried in Stock Sizes	60	1 1/16	3/4	1 3/16	7/32
	74	1 1/8	1	1 1/2	1/4
	75	1 1/8	1	1 1/2	9/32
	78	1 1/4	1	1 1/2	9/32
	82	1 1/2	1 1/4	1 7/8	13/32



RR Attachment

Class	Chain No.	A	B	C	D
Carried in Stock Sizes	60	2 1/8	3/4	1 3/16	7/32
	74	2 1/4	1	1 1/2	1/4
	75	2 1/4	1	1 1/2	9/32
	78	2 1/2	1	1 1/2	9/32
	82	3	1 1/4	1 7/8	9/32

Reliance Riveted Chains



Cast Iron Sprocket Wheels for Reliance Riveted Chains

Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

Nos. 60, 60H

No. of Teeth	Driven Pitch Diam. In.	Driven Pattern No.	Driver Pitch Diam. In.	Driver Pattern No.	D Max. Diam. of Hub or Lugs In.
6▲	4.58	S-2132	4.60	S-2133	3
7▲	5.28	S-2134	5.30	S-2135	3¾
8▲	5.99	S-2136	6.02	S-2137	4½
9▲	6.70	S-2138	6.73	S-2139	5⅜
10▲	7.42	S-2140	7.45	S-2141	6⅛
11▲	8.13	S-2142	8.17	S-2143	6⅞
12▲	8.85	S-2144	8.90	S-2145	7½
13▲	9.58	S-2146	9.62	S-2147	8⅜
14▲	10.30	S-2148	10.35	S-2149	9⅛
15	11.10P	S-2150	11.10P	S-2150	9¾
16	11.83P	S-2151	11.83P	S-2151	10½
18	13.29P	S-2152	13.29P	S-2152	12⅛
20	14.75P	S-2153	14.75P	S-2153	13½
22	16.22P	S-2154	16.22P	S-2154	15
24	17.68P	S-2155	17.68P	S-2155	16½
26	19.15P	S-2156	19.15P	S-2156	17¾
28	20.61P	S-2157	20.61P	S-2157	19½
30	22.08P	S-2158	22.08P	S-2158	20¾
32	23.55P	S-2159	23.55P	S-2159	22¼
34	25.02P	S-2160	25.02P	S-2160	23¾
36	26.48P	S-2161	26.48P	S-2161	25¼
38	27.95P	S-2162	27.95P	S-2162	26⅝
40	29.42P	S-2163	29.42P	S-2163	28¼
48	35.29P	S- 137	35.29P	S- 137	34

No. 73

No. of Teeth	Driven Pitch Diam. In.	Driven Pattern No.	Driver Pitch Diam. In.	Driver Pattern No.	D Max. Diam. of Hub or Lugs In.
8▲*	6.15P	S- 131	6.15P	S- 131	4⅛
10▲*	7.61P	S- 130	7.61P	S- 130	5¾
12▲*	9.13P	S-1097	9.13P	S-1097	7⅜
15▲*	11.34	S-2164	11.39	S-2165	9¾
16*	12.06P	S- 129	12.06P	S- 129	10¼
23*	17.31	S-2166			15¾
24*	18.10P	S-2167	18.10P	S-2167	16½
28*	21.11P	S- 541	21.11P	S- 541	19½
32*	24.05	S-2168			22½
41*	30.80	S- 795			29¼
48*	36.04	S- 796			34⅜

Nos. 74, 78 (Same as No. 78 Detachable)

No. of Teeth	Driven Pitch Diam. In.	Driven Pattern No.	Driver Pitch Diam. In.	Driver Pattern No.	D Max. Diam. of Hub or Lugs In.
5▲*	4.43	S-1908	4.45	S-1909	2½
6▲*	5.20	S- 411	5.23	S-1910	3¼
7▲*	6.00	S- 343	6.03	S-1911	4
8▲*	6.80	S- 632	6.83	S-1912	4 13/16
9▲*	7.61	S- 100	7.65	S- 101	5⅝
10▲*	8.42	S-1071	8.46	S-1913	6½
11▲*	9.26P	S-1028	9.26P	S-1028	7¼
12▲*	10.08P	S-1914	10.08P	S-1914	8
13▲*	10.90P	S-1915	10.93	S-1916	8⅞
14▲*	11.70	S- 798	11.75	S-1917	9¾
15*	12.52	S-1918	12.58	S-1919	10½
16*	13.34	S-1920	13.41	S-1921	11⅜
17*	14.16	S-1922	14.24	S-1923	12⅛
18*	14.99	S-1070	15.07	S-1924	13
19*	15.81	S- 885	15.89	S-1925	13 13/16
20*	16.64	S- 869	16.72	S- 362	14⅝
21*	17.46	S-1926	17.55	S-1927	15½
22*	18.29	S-1928	18.38	S-1929	16¼

Nos. 74, 78 (Same as No. 78 Detachable) (Cont'd)

No. of Teeth	Driven Pitch Diam. In.	Driven Pattern No.	Driver Pitch Diam. In.	Driver Pattern No.	D Max. Diam. of Hub or Lugs In.
24*	19.94	S- 393	20.04	S-1932	17 15/16
26*	21.59	S-1935	21.70	S- 661	19½
28*	23.30P	S-1937	23.30P	S-1937	21¼
30*	24.90	S- 932	25.02	S-1008	22⅞
32*	26.56	S- 399	26.69	S- 684	24½
34*	28.28P	S-1940	28.35	S-1941	26¼
36*	29.86	S- 604	30.01	S-1030	27⅞
38*	31.60P	S- 668	31.68	S-1943	29½
40*	33.17	S-1946	33.33	S-1947	31⅛
43*	35.66	S- 457	35.83	S- 683	33⅝
44*	36.48	S-1948	36.66	S- 858	34½
46*	38.14	S-1950	38.33	S-1951	36⅛
49*	40.62	S- 407	40.82	S- 706	38⅝
50*	41.45	S- 352	41.65	S- 708	39½
57*	47.24	S- 605	47.48	S- 903	45¼
60*	49.72	S- 985			47¾

No. 75

No. of Teeth	Driven Pitch Diam. In.	Driven Pattern No.	Driver Pitch Diam. In.	Driver Pattern No.	D Max. Diam. of Hub or Lugs In.
8▲*	6.82P	S-2169	6.82P	S-2169	5¼
9▲*	7.63P	S-2170	7.63P	S-2170	6⅛
10▲*	8.44P	S-2171	8.44P	S-2171	7
12▲*	10.08P	S-2172	10.08P	S-2172	8½
14▲*	11.72P	S-2173	11.72P	S-2173	10¼
16*	13.38P	S-2174	13.38P	S-2174	12
18*	15.02P	S-2175	15.02P	S-2175	13½
20*	16.68P	S-2176	16.68P	S-2176	15½
22*	18.33P	S-2177	18.33P	S-2177	17
24*	19.99P	S-2178	19.99P	S-2178	18¾
26*	21.65P	S-2179	21.65P	S-2179	20⅜
28*	23.30P	S-2180	23.30P	S-2180	22
30*	24.96P	S-2181	24.96P	S-2181	23⅝
32*	26.62P	S-2182	26.62P	S-2182	25⅜
34*	28.28P	S-2183	28.28P	S-2183	27

No. 78 see No. 74

No. 82 (Same as No. 103 Detachable)

No. of Teeth	Driven Pitch Diam. In.	Driven Pattern No.	Driver Pitch Diam. In.	Driver Pattern No.	D Max. Diam. of Hub or Lugs In.
6▲*	6.14	S-1954	6.16	S-1955	3⅞
7▲*	7.09P	S- 704	7.10	S-1956	4¾
8▲*	8.04P	S-1957	8.05	S-1958	5¾
9▲*	8.99P	S-1036	8.99P	S-1036	6⅝
10▲*	9.95P	S-1959	9.97	S-1131	7⅝
11▲*	10.92P	S-1960	10.94	S-1961	8⅝
12*	11.85	S-1041	11.91	S-1962	9⅝
13▲*	12.85P	S-1963	12.88	S-1964	10½
14▲*	13.82P	S-1965	13.85	S-1966	11½
15*	14.79P	S- 114	14.79P	S- 114	12½
16*	15.76P	S- 728	15.76P	S- 728	13½
17*	16.74P	S-1967	16.78	S-1968	14⅜
18*	17.71P	S-1026	17.75	S-1969	15⅜
19*	18.68P	S-1970	18.73	S-1971	16⅜
20*	19.66P	S-1051	19.71	S- 713	17¼
21*	20.63P	S-1972	20.68	S-1973	18¼
22*	21.61P	S-1974	21.66	S-1975	19¼
24*	23.56P	S- 883	23.62	S-1099	21¼
26*	25.51P	S-1979	25.57	S- 508	23⅛
28*	27.40	S- 896	27.53	S-1035	25⅛

▲ Plate Center Wheels; all others have arms.
* Indicates Wheels which can be furnished with Chilled Rims.
P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.

Cast Iron Sprocket Wheels for Reliance Riveted Chains—Cont'd

Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

No. of Teeth	Driven: Pitch Diam. In.	Driven: Pattern No.	Driver: Pitch Diam. In.	Driver: Pattern No.	D Max. Diam. of Hub or Lugs In.
No. 82 (Same as No. 103 Detachable) (Cont'd)					
30*	29.35	S-1143	29.49	S-1982	27
32*	31.38P	S-1983	31.46	S- 494	29
34*	33.25	S-1984	33.41	S- 505	30⅞
36*	35.28P	S- 979	35.37	S-1985	32⅞
38*	37.15	S-1067	37.33	S-1986	34¾
40*	39.10	S-1987	39.29	S- 527	36¾
42*	41.05	S-1988			38⅝
44*	43.00	S-1126			40⅝
46*	44.95	S-1127			42⅝
49*	47.88	S-1111	48.11	S-1990	45½
55*	53.86P	S- 475	53.86P	S- 475	51 7/16
58*	56.66	S- 935			54¼
No. 87					
6▲*	8.00P	S-2192	8.00P	S-2192	5
7▲*	9.22P	S-2193	9.22P	S-2193	6¼
8▲*	10.45P	S-2194	10.45P	S-2194	7¾
9▲*	11.70P	S-2195	11.70P	S-2195	9
10▲*	12.94P	S-2196	12.94P	S-2196	10¼
11▲*	14.20P	S-2197	14.20P	S-2197	11¾
12▲*	15.45P	S-2198	15.45P	S-2198	13
14*	17.98P	S-2199	17.98P	S-2199	15½
16*	20.50P	S-2200	20.50P	S-2200	18
18*	23.03P	S-2201	23.03P	S-2201	20⅝
20*	25.57P	S-2202	25.57P	S-2202	23¼
22*	28.11P	S-2203	28.11P	S-2203	25¾
24*	30.64P	S-2204	30.64P	S-2204	28¼

No. of Teeth	Driven: Pitch Diam. In.	Driven: Pattern No.	Driver: Pitch Diam. In.	Driver: Pattern No.	D Max. Diam. of Hub or Lugs In.
No. 87 (Cont'd)					
26*	33.18P	S-2205	33.18P	S-2205	30¾
28*	35.73P	S-2206	35.73P	S-2206	33¼
30*	38.19	S-3197			35⅞
No. 95					
13*	16.82	S-2207			14¾
19*	24.45	S-2208	24.53	S-2209	22½
No. 124					
7▲*	9.20	S-2210	9.24	S-2211	6¼
8▲*	10.43	S-2212	10.47	S-2213	7¾
9▲*	11.67	S-2214	11.73	S-2215	9
10▲*	12.91	S-2216	12.97	S-2217	10¼
11▲*	14.16	S-2218	14.23	S-2219	11¾
12▲*	15.41	S-2220	15.49	S-2221	13
13*	16.71P	S-2222	16.71P	S-2222	14¼
14*	17.98P	S-2223	17.98P	S-2223	15½
15*	19.24P	S-2224	19.24P	S-2224	16¾
16*	20.50P	S-2225	20.50P	S-2225	18
18*	23.03P	S-2226	23.03P	S-2226	20⅝
20*	25.57P	S-2227	25.57P	S-2227	23¼
22*	28.11P	S-2228	28.11P	S-2228	25¾
24*	30.64P	S-2229	30.64P	S-2229	28¼
28*	35.73P	S-2230	35.73P	S-2230	33¼
30*	38.27P	S-2231	38.27P	S-2231	35¾
32*	40.82P	S-2232	40.82P	S-2232	38¼
34*	43.36P	S-2233	43.36P	S-2233	40¾

▲ Plate Center Wheels; all others have arms.
* Indicates Wheels which can be furnished with Chilled Rims.
P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.

Cast Iron Sprockets for Jeffrey "Pintle" Chains

No. 1 Sprockets on application.
No. 2 Sprockets on application.
No. 442 Use No. 42 Detachable Sprockets see page 457.
No. 445 Use No. 45 Detachable Sprockets see page 457.
No. 462 Use No. 62 Detachable Sprockets see page 458.
No. H-567 Sprockets on application.
No. H-630 Sprockets on application.
No. 1152 Use No. 52 Detachable Sprockets see page 458.
No. 4103 Use No. 103 Detachable Sprockets see page 459.

Steel Sprocket Wheels for Reliance Riveted Chains

Sizes and Prices of Cast Steel Sprocket Wheels for Jeffrey Reliance Chains on application

Flanged Idlers for Reliance Riveted Chains

Single Flanged Idlers

Actual Face Diam. Inches	† Depth Flange Inches	Pattern No.
No. 60		
12⅛	1¼	29670
19	1½	29657
No. 73		
10⅛	1¼	29665
12⅛	1½	29686
No. 73 (Cont'd)		
14¾	1 1/16	29697
16¾	1 5/16	29669
20¼	1½	29634
Nos. 74 and 75		
8 5/16	2	29664
12⅛	1½	29686
Nos. 74 and 75 (Cont'd)		
16¾	1 5/16	29669
20	1	29643
No. 78		
8⅛	⅞	29660
10⅛	1¼	29665
14⅜	1 1/16	29697
No. 78 (Cont'd)		
18¼	1	29691
22	2	29635
23	2	29640
No. 82		
10	1 1/16	8200
No. 124		
24¼	1¼	29644

Double Flanged Idlers††

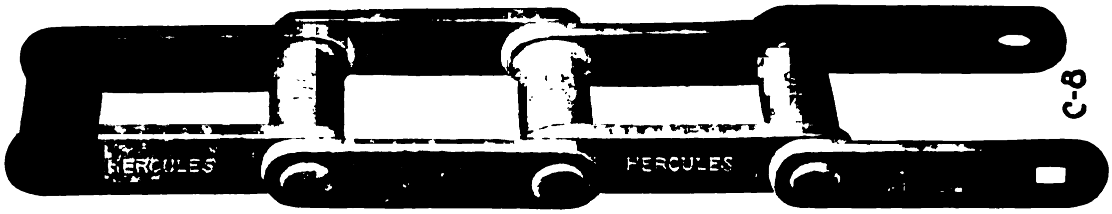
Actual Face Diam. Inches	† Depth Flange Inches	Pattern No.
No. 60		
16¼	⅞	29689
18	1⅛	29630
20	1½	60071
No. 73		
11	1½	29681
12⅛	1¼	29658
No. 73 (Cont'd)		
14⅜	⅞	60070
16⅛	1 9/16	29695
Nos. 74 and 75		
10⅛	13/16	29668
11	1½	29681
12¼	13/16	29688
No. 78		
12	1 9/16	29655
14⅜	⅞	60070
16⅛	1 9/16	29695
Nos. 87 and 95		
12⅛	1½	3916
Nos. 87 and 95 (Cont'd)		
18⅛	1½	13210
22⅛	1½	20627
No. 124		
12⅛	1 7/16	29672

†In use of Idlers, note that Depth of Flange clears back of Attachment used.
††Not furnished in Chilled Rim for Double Flanged Idlers.

Hercules Chains

A Combination Malleable Iron and Steel Chain

Designed especially for extra heavy work in handling gritty materials in Cement Plants, Chemical Works, Mines, etc., and is also extensively used for general elevating and conveying work.



THE Hercules Chain being a combination of both malleable block links and steel side bars with steel pins is the first step to the all steel type of chain and therefore makes a very economical chain in consideration of not only its wearing qualities but especially of its ability to withstand shock.

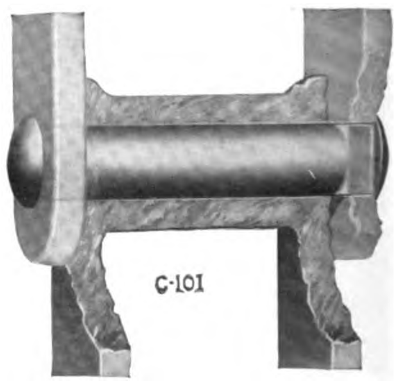
It is often used as the intermediate step in service between Reliance and Peerless chains.

This type of Chain is used for drives of moderate speed and quite extensively for elevators and conveyors where it is well fitted for the handling of gritty materials. In elevator service it is usually attached to buckets in single and double strand and in conveyors of single or multiple strands with and without pusher attachments.

Large quantities of Hercules Chain are used in the lumber industry for conveying logs, planks and refuse and also in the paper industry for handling pulp wood.

A substitute for many Detachable Link Chains. See page 471.

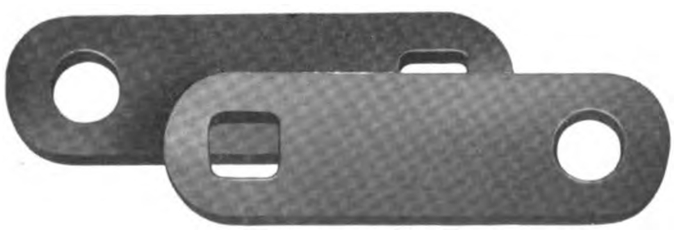
A practically Dust Proof Chain with Malleable Block Links, Steel Side Bars and Pins.



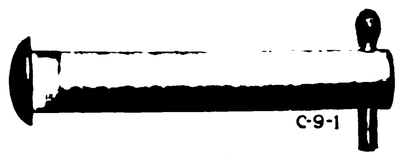
The Square Shank pins confine the wear to inside of solid links. Practically no wear to outside links.

By the Jeffrey Square Shank Pin, the rigid holding of pins in side bars is assured.

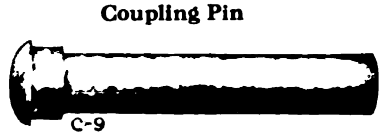
Made up with Riveted Pins unless specifically ordered as made up with "Pins with Cotters" or "Pins with Nuts and Cotters"



Interchangeable Side Bars for Square Shank Pins

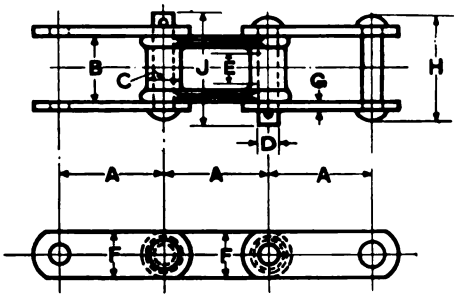


Coupling Pin

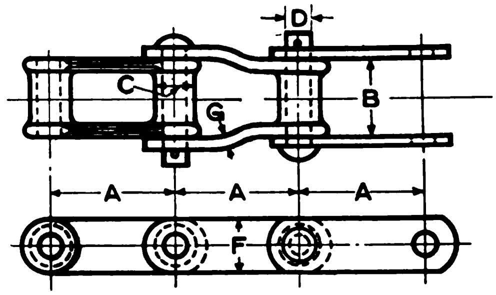


Rivet Pin

Hercules Chains



Plain Chain



Couplers

Made up with Riveted Pins unless otherwise Ordered.
For List Price—See Price List Bulletin

Chain No.	A Pitch Inches	Approx. Weight per Foot	‡ Working Strength at 150 F. P. M.	† Max. Speed Feet per Min.	Works on Sprocket Number	B Inside Side Bars	C Diam. of Barrel	D Diam. of Pin	E Max. Width of Sprocket	Side Bars F	Side Bars G	H Overall Riveted Chain	J Overall Coupled Chain
102	**3.96**	**6.0**	**2500**	**450**	**85-Det.**	**2 13/16**	**21/32**	**1/2**	**2**	**1 1/2**	**3/8**	**4**	**4 5/16**
102-B	**3.96**	**6.0**	**3900**	**450**	**85-Det.**	**2 13/16**	**1**	**5/8**	**2**	**1 1/2**	**3/8**	**4 1/8**	**4 7/16**
102 1/2	**4.03**	**9.0**	**5600**	**400**	**102 1/2**	**2 15/16**	**1 3/8**	**3/4**	**2**	**1 3/4**	**3/8**	**4 9/16**	**4 9/16**
110§	**6.00**	**6.0**	**3900**	**350**	**110**	**2 13/16**	**1 1/4**	**5/8**	**1 15/16**	**1 1/2**	**3/8**	**4 1/8**	**4 7/16**
111§	**4.78**	**9.1**	**5600**	**400**	**111**	**3 3/8**	**1 3/8**	**3/4**	**2 3/8**	**1 3/4**	**3/8**	**4 3/4**	**5 1/8**
****111 Sp§**	**4.78 7.22**	**7.8**	**5600**	**350**	**111 Sp**	**3 3/8**	**1 3/8**	**3/4**	**2 3/8**	**1 3/4**	**3/8**	**4 3/4**	**5 1/8**
131§	**3.075**	**6.4**	**3750**	**550**	**103-Det.**	**2**	**1 1/4**	**5/8**	**1 1/8**	**1 1/2**	**3/8**	**3 5/16**	**3 5/8**
132§	**6.125**	**14.2**	**10000**	**300**	**132**	**4 3/8**	**1 3/4**	**1**	**3 1/8**	**2**	**1/2**	**6 1/8**	**6 3/8**
188	**2.609**	**4.2**	**2450**	**600**	**78-Det.**	**1 9/16**	**7/8**	**1/2**	**15/16**	**1 1/8**	**1/4**	**2 1/2**	**2 7/8**

Bold Face Type indicates Carried in Stock Sizes to cover all reasonable demands; all others subject to occasional delays.

‡**Working Strengths in Table** are increased or decreased for speeds other than 150 ft. per min. For other speeds, see page 429, and use but half of values thus obtained for service in gritty materials.

†**Economical Speeds** are half of "Max." Speeds.

How to use "Hercules" chains—for service in Gritty Materials in cement plants, chemical works, mines, etc. use economical speeds.

**Alternate long and short pitches, with long pitch in steel side bars.

§These sizes can be furnished in Manganese Steel.

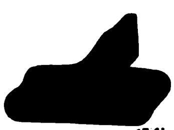
Manganese Hercules Chain

The following sizes of Hercules Chains can be furnished made up with Manganese block links, side bars and pins or with Manganese block links and steel side bars and hardened steel pins for service under gritty conditions:

No. 110 Plain chain and K-2 attachment.
No. 111 Plain chain and G-6, K-2 and K-2 side bar attachments.
No. 111 Spec. Plain and G-6 and K-2 attachments.
No. 131 Plain Chain and F-2, G-6 and K-2 attachments.
No. 132 Plain Chain and K-2 attachment.

General overall dimensions of chains and attachments are same as indicated for regular chain on this and following pages. For Manganese Sprockets use those listed for Cast Steel, page 476.

Attachments

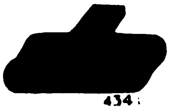


F-2
(Malleable)

G-6 or G-1
(Malleable)
With Taper for Standard Buckets, G-6 with 4 holes G-1 with 2 holes

G-9
(Steel)

G-19
(Malleable)



K-1
(Malleable)

K-1
(Steel)

K-2
(Malleable)

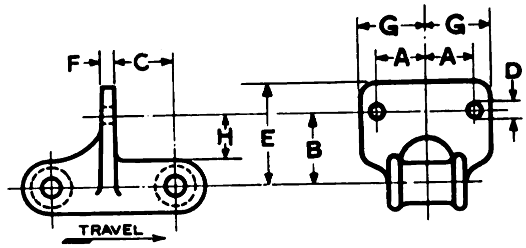
K-2
(Steel)

S
(Steel)

Hercules Chains

Attachments

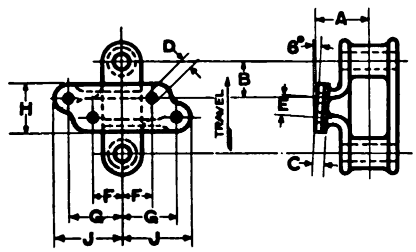
F-2 Attachment



Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Carried in Stock Sizes	102½	2⅞	2	1¼	⅜	Round—Straight	3	5/16	3 9/16	1⅛
	111	3 3/16	2	1¾	⅜	" "	3	⅜	3 13/16	1⅛
	111 Sp.	3 3/16	2	1¾	⅜	" "	3	⅜	3 13/16	1⅛
	*131	2 11/32	1 11/16	15/16	⅜	" "	2 11/16	5/16	3 1/16	1
	188	1	1½	1¼	5/16	" "	2⅛	5/16	1⅜	15/16

*Can be furnished in Manganese Steel.

G-6 Attachment

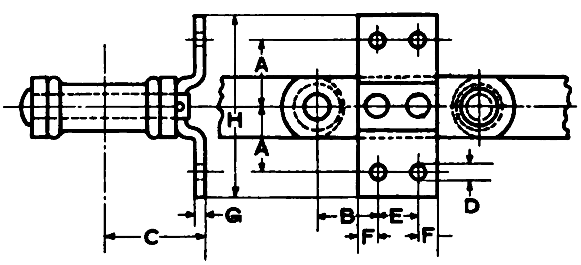


Can be furnished either Right or Left Hand Left Hand shown

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J
Carried in Stock Sizes	110	2½	2 9/16	5/16	⅜	Round—Straight	⅞	1 1/16	1¾	2¼	2 5/16
	*111	2 25/32	1 15/16	5/16	⅜	" "	⅞	1 1/16	1¾	2 5/16	2 11/32
	*111 Sp.	2 25/32	1 15/16	5/16	⅜	" "	⅞	1 1/16	1¾	2 5/16	2 11/32
	*131	2 1/16	1¼	9/32	⅜	" "	9/16	⅞	1 17/32	2 1/32	2 1/32
	188	1½	1 1/32	¼	¼	" "	9/16	⅞	1 17/32	1 13/32	1 25/32

*Can be furnished in Manganese Steel.

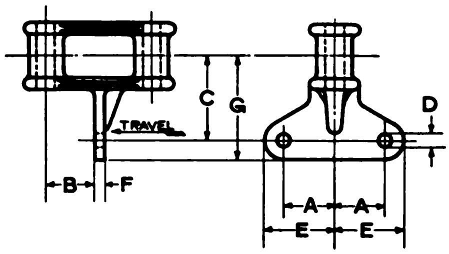
G-9 (Steel) Attachment



Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Made on Order Sizes	102	1⅝	1 3/16	2 13/32	⅜	Round—Straight	1⅝	11/16	¼	4½
	102-B	1⅝	1 3/16	2 13/32	⅜	" "	1⅝	11/16	¼	4½
	110	1⅝	2 3/16	2 13/32	⅜	" "	1⅝	11/16	¼	4½
	111	1⅝	1½	2¾	½	" "	1¾	⅞	¼	4½
	131	1 7/16	1 1/32	2⅛	⅜	" "	1	7/16	¼	3⅞
	132	1⅝	2 3/16	3⅛	½	" "	1¾	⅞	¼	4½

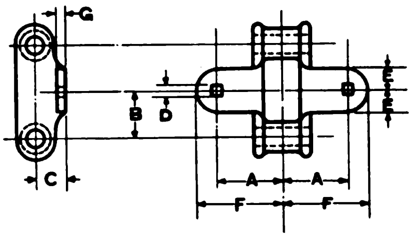
Hercules Chains

Attachments



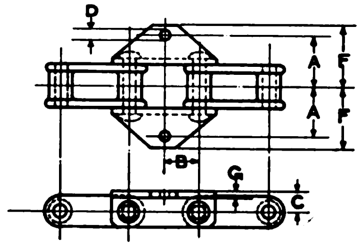
G-19 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Made on Order Size	131	1 7/16	29/32	2 3/8	3/8	Round—Straight	1 31/32	9/32	3 1/8



K-1 (Malleable) Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Carried in Stock Sizes	102-B 131 188	2 3/8 2 1/16 1 7/8	2 1 17/32 1 5/16	1 1 13/16	3/8 3/8 3/8	Round—Straight " " Square—Straight	1 3/8 1 11/32 19/32	3 1/4 2 5/8 2 7/16	7/32 1/4 7/32
Made on Order Size	102	2 3/8	2	1	3/8	Round—Straight	1 3/8	3 1/4	3/16



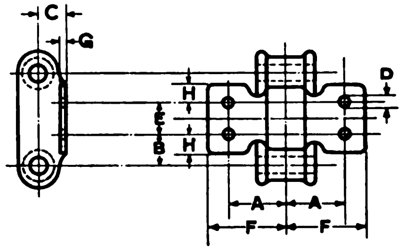
K-1 (Steel) Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	F	G
Carried in Stock Sizes	102-B 131 188	2 3/8 2 1/16 1 7/8	2 1 17/32 1 5/16	15/16 15/16 13/16	3/8 3/8 3/8	Round—Straight " " " "	3 5/32 2 3/4 2 5/16	3/8 3/8 1/4
Made on Order Size	102	2 3/8	2	15/16	3/8	Round—Straight	3 5/32	3/8

Hercules Chains

Attachments

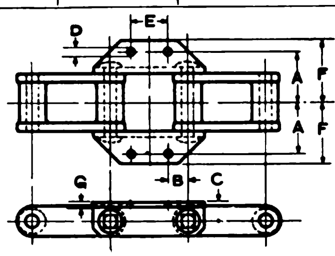
K-2
(Malleable)
Attachment



Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Carried in Stock Sizes	102-B	2 21/32	1 1/8	1	3/8	Round—Straight	1 3/4	3 1/4	7/32	1/2
	102 1/2	2 21/32	1 1/8	1	3/8	" "	1 3/4	3 5/16	1/4	21/32
	*110	2 21/32	2 1/8	1	3/8	" "	1 3/4	3 1/4	1/4	7/16
	*111	3 1/8	1 7/32	1 1/8	3/8	Square—Straight	2 5/16	3 23/32	1/4	[illegible]
	*111 Sp	3 1/8	1 7/32	1 1/8	3/8	" "	2 5/16	3 23/32	1/4	[illegible]
	*131	2 1/16	25/32	1	1/2	Round—Straight	1 1/2	2 5/8	5/16	[illegible]
	*132	3 3/4	1 21/32	1 1/4	1/2	" "	2 3/4	4 1/2	5/16	5/8
Made on Order Size	102	2 21/32	1 1/8	1	3/8	" "	1 3/4	3 1/4	7/32	11/32

*Can be furnished in Manganese Steel.

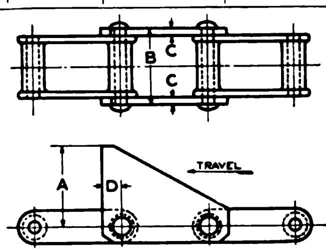
K-2
(Steel)
Attachment



Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Carried in Stock Sizes	102-B	2 21/32	1 1/8	15/16	3/8	Round—Straight	1 3/4	3 5/32	3/8
	102 1/2	2 21/32	1 1/8	1 1/8	3/8	" "	1 3/4	3 15/32	3/8
	110	2 21/32	2 1/8	15/16	3/8	" "	1 3/4	3 5/32	3/8
	*111	3 1/8	1 7/32	1 1/8	3/8	" "	2 5/16	3 11/16	3/8
	111 Sp	3 1/8	2 15/32	1 1/8	3/8	" "	2 5/16	3 11/16	3/8
	131	2 1/16	25/32	15/16	1/2	" "	1 1/2	2 3/4	3/8
	132	3 3/4	1 11/16	1 3/8	1/2	" "	2 3/4	4 11/16	1/2
Made on Order Size	102	2 21/32	1 1/8	15/16	3/8	" "	1 3/4	3 5/32	3/8

*Can be furnished in Manganese Steel.

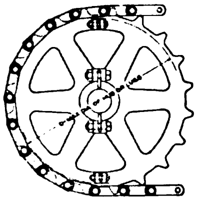
S
Attachment



Class	Chain No.	A	B	C	D
Made on Order Sizes	102	3 3/4	3 9/16	3/8	15/16
	102-B	3 3/4	3 9/16	3/8	15/16
	102 1/2	3 3/4	3 11/16	3/8	1 1/8
	110	4 1/4	3 9/16	3/8	7/8
	111	4 3/8	4 1/8	3/8	1 1/16
	111 Sp.	4 3/8	4 1/8	3/8	1 1/16
	131	3 1/4	2 3/4	3/8	7/8
	132	5	5 3/8	1/2	1 9/32
	188	2 5/8	2 1/8	1/4	21/32

Hercules Chains

Cast Iron Sprocket Wheels for Square Shank Pin Hercules Chains



Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

Nos. 102 and 102-B — Same as No. 85 Detachable

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5▲*	6.77	S 1887	6.79	S-1888	4½
6▲*	7.96	S-1889			6
8▲*	10.39	S- 369	10.43	S- 620	8⅜
9▲*	11.63	S-1890			9⅝
10▲*	12.87	S- 698	12.91	S-1891	10⅞
11*	14.12	S-1892	14.16	S 1893	12⅛
12*	15.39P	S-1894	15.39P	S-1894	13⅜
14*	17.90P	S-1114	17.93	S-1895	15⅞
15*	19.13	S- 398			17⅛
16*	20.39	S-1896	20.45	S-1897	18⅜
18*	22.94P	S-1898	22.98	S- 404	20 11/16
19*	24.16	S-1899	24.24	S-1900	22⅛
21*	26.69	S-1901	26.77	S-1902	24 11/16
22*	27.95	S- 384			26
23*	29.26P	S-1903	29.31	S-1904	27¼
26*	33.00	S- 559	33.10	S-1905	31
27*	34.26	S-1906	34.38	S-1907	32¼
32*	40.59	S-1144			38½
38*	48.17	S- 446			46⅛
47*	59.55	S-1019			57½

No. 102½

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲*	8.04	S-2234			4¾
8▲*	10.53P	S- 381	10.53P	S- 381	6⅜
9▲*	11.78P	S- 123	11.81	S- 644	9⅛
10▲*	13.03P	S-1029	12.87	S- 698	10¼
11▲*	14.26	S-1075	14.33	S- 631	11⅜
12▲*	15.52	S- 584			12¾
15*	19.37P	S-1044	19.37P	S-1044	16¾
16*	20.64P	S-1072	20.64P	S-1072	18
17*			21.98	S-2235	19⅜
18*	22.98	S 404			20⅜
19*	24.47P	S- 993	24.47P	S- 993	21⅞
22*	28.23	S-2236			25⅝
23*	29.58P	S-2237	29.58P	S-2237	27
26*	33.33	S- 864			30¾
31*	39.72	S-2238			37⅛
37*	47.38	S- 650			44⅝
46*	58.88	S-2239			56¼

No. 110

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲*	11.98	S- 621			8¼
8▲*	15.66	S-2242			12⅜
9*	17.52	S- 551			14
10*	19.39	S- 459			16
11*	21.27	S 950			18
12*	23.15	S- 488	23.22	S- 948	19⅞
13*	25.04	S-1038			22
16*	30.71	S- 930			27¾
18*	34.50	S- 487	34.60	S-2243	31½
37*	70.65	S-2240	70.85	S-2241	67½

No. 111

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
9▲*	13.98P	S-2244	13.98P	S-2244	11
11▲*	16.96P	S- 127	16.96P	S- 127	15½
12▲*	18.47P	S- 598	18.47P	S- 598	15 11/16
13▲*	19.97P	S- 561	19.97P	S- 561	17 3/16
14*	21.48P	S- 580	21.48P	S- 580	18 11/16
15*	22.99P	S- 641	22.99P	S- 641	20¼
16*	24.50P	S- 576	24.50P	S- 576	21¾
18*	27.53P	S- 592	27.53P	S- 592	24¾
20*	30.56P	S- 557	30.56P	S- 557	27 11/16
22*	33.59P	S 773	33.59P	S- 773	30 11/16

No. 111 Special

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
8▲*	15.41	S- 377	15.46	S-2245	11¼
10*	19.43	S- 954			15½
12*	23.18	S- 961			19½
16*	30.73	S- 822			27⅜

No. 131 — Same as No. 103 Detachable

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲*	6.14	S 1954	6.16	S-1955	3⅞
7▲*	7.09P	S- 704	7.10	S-1956	4¾
8▲*	8.04P	S-1957	8.05	S-1958	5¾
9▲*	8.99P	S-1036	8.99P	S-1036	6⅝
10▲*	9.95P	S-1959	9.97	S-1131	7⅝
11▲*	10.92P	S-1960	10.94	S-1961	8⅝
12▲*	11.85	S-1041	11.91	S-1962	9⅝
13▲*	12.85P	S-1963	12.88	S-1964	10½
14*	13.82P	S-1965	13.85	S-1966	11½
15▲*	14.79P	S- 114	14.79P	S- 114	12½
16▲*	15.76P	S- 728	15.76P	S- 728	13½
17▲*	16.74P	S-1967	16.78	S-1968	14⅜
18▲*	17.71P	S-1026	17.75	S-1969	15⅜
19▲*	18.68P	S-1970	18.73	S-1971	16⅜
20*	19.66P	S-1051	19.71	S- 713	17¼
21*	20.63P	S-1972	20.68	S-1973	18¼
22*	21.61P	S 1974	21.66	S-1975	19¼
24*	23.56P	S- 883	23.62	S-1099	21¼
26*	25.51P	S-1979	25.57	S- 508	23⅛
28*	27.40	S- 896	27.53	S-1035	25⅛
30*	29.35	S-1143	29.49	S-1982	27
32*	31.38P	S-1983	31.46	S- 494	29
34*	33.25	S-1984	33.41	S- 505	30⅞
36*	35.28P	S- 979	35.37	S-1985	32⅞
38*	37.15	S-1067	37.33	S-1986	34¾
40*	39.10	S-1987	39.29	S- 527	36¾
42*	41.05	S-1988			38⅝
44*	43.00	S-1126			40⅝
46*	44.95	S-1127			42⅝
49*	47.88	S-1111	48.11	S-1990	45½

No. 131—Cont'd

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
55*	53.86P	S- 475	53.86P	S- 475	51 1/16
58*	56.66	S- 935			54¼

No. 132

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
8▲*			16.05	S 2246	12½
9*	17.91P	S-3198	17.91P	S-3198	14⅛
12*	23.67P	S 3199	23.67P	S-3199	20⅜
13*	25.59P	S- 113	25.59P	S- 113	22⅜
15*	29.46P	S-3200	29.46P	S-3200	26⅜
18*	35.27P	S-3201	35.27P	S-3201	32⅜
21*	41.10P	S-2247	41.10P	S-2247	38
36*	70.27	S-2248			67⅜

No. 188 — Same as No. 78 Detachable

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5▲*	4.43	S-1908	4.45	S-1909	2½
6▲*	5.20	S- 411	5.23	S-1910	3¼
7▲*	6.00	S- 343	6.03	S-1911	4
8▲*	6.80	S- 632	6.83	S-1912	4 11/16
9▲*	7.61	S- 100	7.65	S- 101	5⅝
10▲*	8.42	S-1071	8.46	S-1913	6½
11▲*	9.26P	S-1028	9.26P	S-1028	7¼
12▲*	10.08P	S-1914	10.08P	S-1914	8
13▲*	10.90P	S-1915	10.93	S-1916	8⅞
14▲*	11.70	S- 798	11.75	S-1917	9¾
15*	12.52	S-1918	12.58	S-1919	10½
16*	13.34	S-1920	13.41	S-1921	11⅜
17*	14.16	S-1922	14.24	S-1923	12⅜
18*	14.99	S-1070	15.07	S-1924	13
19*	15.81	S- 885	15.89	S-1925	13 11/16
20*	16.64	S- 869	16.72	S- 362	14⅝
21*	17.46	S-1926	17.55	S-1927	15½
22*	18.29	S-1928	18.38	S-1929	16¼
24*	19.94	S- 393	20.04	S-1932	17 11/16
26*	21.59	S 1935	21.70	S- 661	19⅜
28*	23.30P	S-1937	23.30P	S-1937	21¼
30*	24.90	S- 932	25.02	S-1008	22⅞
32*	26.56	S- 399	26.69	S- 684	24½
34*	28.28P	S-1940	28.35	S-1941	26¼
36*	29.86	S- 604	30.01	S-1030	27⅞
38*	31.60P	S- 668	31.68	S-1943	29½
40*	33.17	S-1946	33.33	S-1947	31⅛
43*	35.66	S- 457	35.83	S- 683	33⅝
44*	36.48	S-1948	36.66	S- 858	34½
46*	38.14	S-1950	38.33	S-1951	36⅛
49*	40.62	S- 407	40.82	S- 706	38⅝
50*	41.45	S- 352	41.65	S- 708	39½
57*	47.24	S- 605	47.48	S- 903	45¼
60*	49.72	S- 985			47¼

▲ Plate Center Wheels; all others have arms.

* Indicates Wheels which can be furnished with Chilled Rims.

P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.

Hercules Chains

Steel Sprocket Wheels for Square Shank Pin Hercules Chains

Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

Nos. 102 and 102-B (Same as No. 85 Detachable)

No. of Teeth	Driven: Pitch Diameter Ins.	Driven: Pattern No.	Driver: Pitch Diameter Ins.	Driver: Pattern No.	D Max. Dia. Hub or Lugs Ins.
8▲	10.43	S- 620			8 3/8
9▲	11.63	449			9 5/8
11	14.16	S-1893			12 1/8
13	16.62	9409	16.67	445	14 5/8
14	17.87	783	17.93	784	15 7/8
18	22.98	S- 404			20 15/16
19	24.24	S-1900			22 1/8
23	29.31	S-1904			27 1/4
38			48.05	27742	46 1/8

No. 102½

No. of Teeth	Driven: Pitch Diameter Ins.	Driven: Pattern No.	Driver: Pitch Diameter Ins.	Driver: Pattern No.	D Max. Dia. Hub or Lugs Ins.
9▲	11.63	449			9 5/8
13	16.62	9409	16.67	445	14 5/8
14	17.87	783	17.93	784	15 7/8

No. 111

No. of Teeth	Driven: Pitch Diameter Ins.	Driven: Pattern No.	Driver: Pitch Diameter Ins.	Driver: Pattern No.	D Max. Dia. Hub or Lugs Ins.
9▲	13.95	9.13			11
11	16.93	914			15 1/2
16	24.45	939			21 3/4
28	42.69P	45	42.69P	45	39 7/8

No. 131 (Same as No. 103 Detachable)

No. of Teeth	Driven: Pitch Diameter Ins.	Driven: Pattern No.	Driver: Pitch Diameter Ins.	Driver: Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲	6.14	474	6.16	713	3 7/8
7▲	7.07	530			4 3/4
8▲	8.02	609	8.05	577	5 3/4
9▲			9.01	27342	6 5/8
10▲	9.93	507	9.97	510	7 5/8

No. 131 (Same as No. 103 Det.) (Cont'd)

No. of Teeth	Driven: Pitch Diameter Ins.	Driven: Pattern No.	Driver: Pitch Diameter Ins.	Driver: Pattern No.	D Max. Dia. Hub or Lugs Ins.
11▲	10.94	S-1961			8 5/8
12▲	11.85	656	11.91	612	9 5/8
13▲	12.82	504	12.88	547	10 1/2
14▲	13.85	S-1966	13.85	458	11 1/2
15▲	14.79P	151	14.79P	151	12 1/2
18	17.66	855	17.75	996	15 3/8
19	18.64	669	18.73	890	16 3/8
20	19.61	460			17 1/4
21	20.68	S-1973			18 1/4
22	21.61P	28628	21.61P	28628	19 1/4
24	23.62	S-1099	23.62	33	21 1/4
26	25.51P	28629	25.51P	28629	23 1/8
28	27.40	57	27.53	573	25 1/8
30	29.35	689			27
32	31.38P	29021	31.38P	29021	29
36	35.09	459	35.37	32	32 7/8
38	37.24P	29255	37.33	867	34 3/4
41	40.18P	613	40.18P	613	37 7/8
45	44.19	S-1989			41 5/8
49	47.88	614	48.11	673	45 1/2

No. 188 (Same as No. 78 Detachable)

No. of Teeth	Driven: Pitch Diameter Ins.	Driven: Pattern No.	Driver: Pitch Diameter Ins.	Driver: Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲			5.23	522	3 1/4
7▲	6.00	4048	6.03	4045	4
8▲	6.83	S-1912			4 13/16
9▲	7.61	961			5 5/8

No. 188 (Cont'd) (Same as No. 78 Detachable)

No. of Teeth	Driven: Pitch Diameter Ins.	Driven: Pattern No.	Driver: Pitch Diameter Ins.	Driver: Pattern No.	D Max. Dia. Hub or Lugs Ins.
10▲	8.42	611			6 1/2
11▲	9.24	514	9.29	714	7 1/4
12▲	10.06	4041	10.11	4040	8
13▲	10.87	769			8 7/8
14▲	11.75	S-1917	11.75	15940	9 3/4
15	12.52	592	12.58	548	10 1/2
16	13.34	372			11 3/8
17	14.16	404			12 1/8
18	15.07	S-1924	15.07	794	13
20	16.64	670	16.72	591	14 5/8
22	18.29	405	18.38	933	16 1/4
24	19.94	881			17 15/16
26	21.59	856			19 1/2
28	23.25	927	23.30P	29108	21 1/4
30	24.90	580			22 7/8
32	26.56	857			24 1/2
34					26 1/4
36	30.01	S-1030	28.35	930	27 7/8
38	31.52	858			29 1/2
43	35.66	967			33 5/8
45	37.31	912	35.83	934	35 5/16
49	40.62	968			38 5/8
50					39 1/2
57	47.24	93	41.65	607	45 1/4

▲ Plate Center Wheels; all others have arms.
P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.
For Traction Wheels, see page 461.

Idlers for "Hercules" Chains

Single Flanged Idlers

No. 102

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
12 1/8	5/8	29682
24 1/4	1 1/4	29644

Nos. 102B, 110

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
12 1/8	5/8	29682

No. 131

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
10 1/8	1	29671
18 1/8	1 1/4	29693
24 1/4	1 1/4	29644

No. 188

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
8 1/8	7/8	29660
10 1/8	1 1/4	29665
15 1/4	1	29685
16 1/4	1 9/16	29696
23	2	29640

Double Flanged Idlers††

No. 102

8 1/4	7/8	13569
12	1 1/4	12092
18	1 1/2	13210
22	1 1/2	29627

Nos. 102B, 102½, 110

8	1	15885
12	1 1/4	13068

Nos. 102B, 102½, 110 (Cont'd)

16	1 1/2	29633
18	3/4	29632
27 1/2	1 5/8	29638

Nos. 111, 111 Special

8	1	15885
12	1 1/2	13600
16	1 1/2	29633

Nos. 111, 111 Special (Cont'd)

20	1 3/8	29625
27 1/2	1 5/8	29638

No. 131

8	1 1/2	17273
12	1 1/2	3916
18	1 1/2	13210
22	1 1/2	29627

No. 132

12	1 1/2	13600
30 1/4	1 1/2	4776

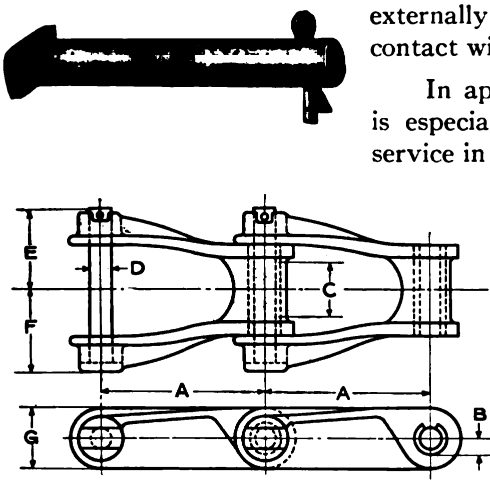
No. 188

8	3/4	29667
10	13/16	29668
12 1/4	3/4	29688
16	1 1/2	29695
20	1 1/2	60069

†In use of Idlers note that the Depth of Flange clears back of Attachment used.
††Not furnished in Chilled Rim for Double Flanged Idlers.

Peerless Chains

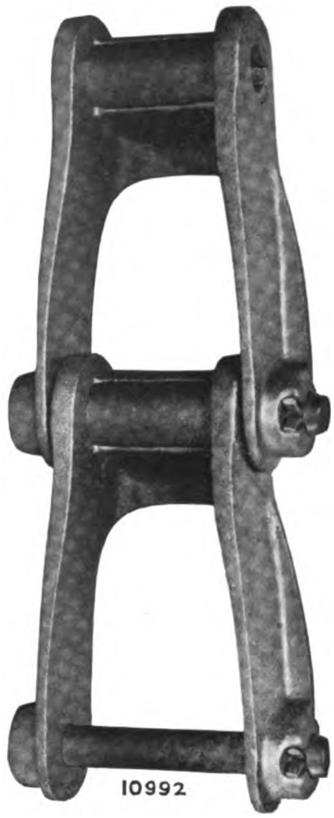

903



PEERLESS Chain is the next step in refinement to Reliance chain, a hard steel bushing being so embodied in the design as to internally receive any wear from movement of pin and externally take any wear incident to contact with sprockets.

In application the Peerless Chain is especially fitted to heavy elevator service in semi-gritty materials and for chain drives where much wear from long service would be expected.

Peerless Chain is extensively used for elevator service in the cement industry with K-2 Attachments applying to the back of buckets on single strand elevators and the G-6 Attachments on the ends of the buckets for double strand elevators.


10992

For List Price—see Price List Bulletin

Chain No.	A Pitch	Approx. Weight per Foot	‡Working Strength at 150 F. P. M.	*Max. Speed in F. P. M.	B Radius of Thimble	C Max. Sprocket Width	D Diam. of Pin	Overall E	Overall F	Overall G
823	4.000	4.75	3000	500	25/64	1⅛	½	1 13/16	1 13/16	1⅜
825	4.000	9.00	5075	450	27/64	1¼	¾	2 3/16	2	2
830	6.000	7.20	5075	450	27/64	1 5/16	¾	2 3/16	2	1⅞
†835	4.000	9.70	4700	450	23/64	2¼	⅝	3 3/16	2⅞	1 15/16
†843	6.000	10.80	6200	400	9/16	1 13/16	¾	3 5/16	2¾	2¼
844	6.000	11.60	7750	400	27/64	2¼	¾	2 15/16	2 11/16	2⅛
†847	6.075	19.50	12750	350	45/64	2⅞	1	4 5/32	3 19/32	2¾

BOLD FACE TYPE INDICATES CARRIED IN STOCK SIZES to cover all reasonable demands; all others subject to occasional delay.

***Economical Speeds are not over half of "Max. Speeds."**

‡Working Strengths in table are increased or decreased for speeds other than 150 feet per minute. For other speeds, see page 429. †Milled pin type.

For proper direction to run chain, see pages 428, 429.

Manganese Peerless Chain

The following sizes can be furnished in Manganese steel and are used extensively for service under gritty conditions.

No. 825 Plain Chain and K-2 attachment.
No. 844 Plain Chain and K-2 attachment.
No. 847 Plain Chain and K-2 attachment.

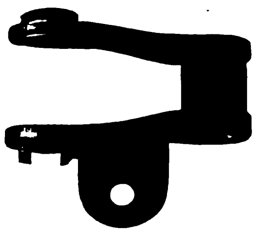
The general overall dimensions of the chains and attachments are the same as indicated for the regular chain made in Malleable with the exception that the thimbles are omitted and the barrel cast from manganese as an integral part of the link, making it much larger in diameter than the steel bushings.

This chain which resembles the "Atlas" in design requires special sprockets and will not work on regular sprockets.

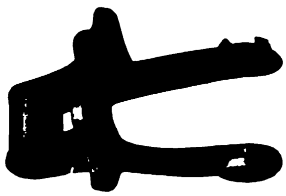
Size of sprockets for manganese chain on application.

Peerless Chains

Attachments

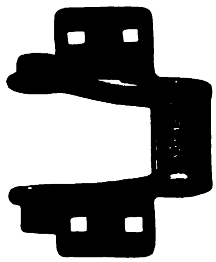


A-42 and A-43

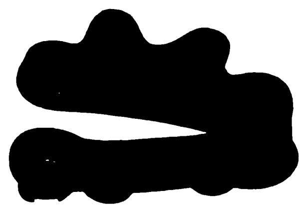


F-2

G-6

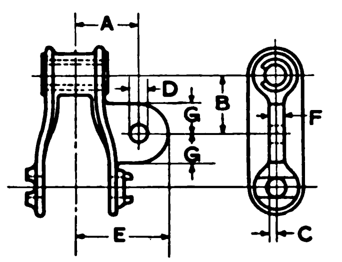


K-2
On Nos. 823 and 835



K-2
On Nos. 825, 830, 843, 844, 847.

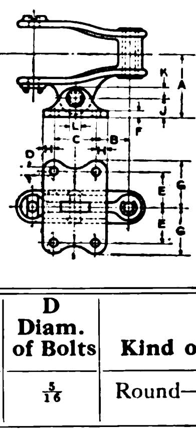
A-42 and A-43 Attachments



Can be furnished either Right or Left Hand. Right Hand Shown.

Class	Chain No.	Name of Attachments	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Carried in Stock Sizes	823	A-43	$1\frac{13}{16}$	$2\frac{5}{16}$	$\frac{13}{64}$	$\frac{7}{16}$	Round—Straight	$2\frac{7}{16}$	$\frac{13}{32}$	$\frac{5}{8}$
	825	A-42	$2\frac{3}{4}$	$2\frac{1}{8}$	$\frac{5}{16}$	$\frac{5}{8}$	" "	$3\frac{5}{8}$	$\frac{5}{8}$	$\frac{7}{8}$
	830	A-42	$2\frac{9}{16}$	3	$\frac{5}{16}$	$\frac{3}{4}$	" "	$3\frac{7}{16}$	$\frac{5}{8}$	$\frac{7}{8}$

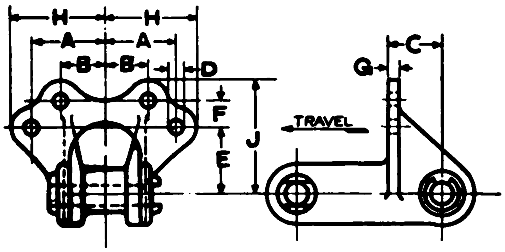
A-43 with Bucket Wing



Class	Chain No.	Name of Attachments	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J	K	L Dia. of Rivet
Carried in Stock Size	823	A-43 & 24-A	$2\frac{9}{16}$	$1\frac{7}{16}$	$1\frac{3}{4}$	$\frac{5}{16}$	Round—Straight	$1\frac{1}{2}$	$\frac{1}{4}$	2	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{7}{16}$

Peerless Chains

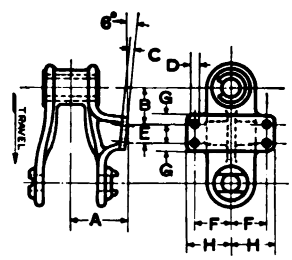
Attachments



F-2 Attachment

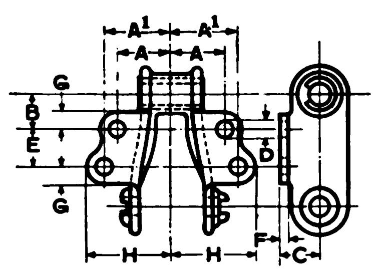
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J
Carried in Stock Sizes	823	2 1/8	1	2	3/8	Round—Straight	2 1/8	1 5/16	5/16	2 5/8	3 15/16
	825	2 1/8	1	2 5/16	3/8	" "	2 1/8	1 5/16	5/16	2 5/8	4
	830	2 1/8	1	3 1/4	3/8	" "	2	1 5/16	3/8	2 5/8	3 7/8

Can be furnished either Right or Left Hand. Right Hand Shown.



G-6 Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Carried in Stock Sizes	823	2	1 3/8	1/4	5/16	Round—Straight	1 1/4	1 5/8	7/16	2 1/16
	825	2 3/8	1 3/8	3/8	3/8	" "	1 1/4	1 3/4	1/2	2 3/8
	830	2 5/8	2 3/8	5/16	3/8	" "	1 1/4	1 3/4	1/2	2 3/8

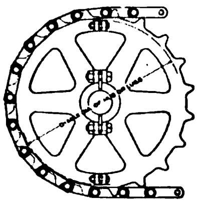


K-2 Attachment

Class	Chain No.	A1	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Carried in Stock Sizes	823	2 5/8	2 5/8	1 5/32	1	3/8	Square—Straight	1 11/16	7/32	15/32	3 1/8
	825	3	3	1 15/32	1 1/8	1/2	Round—Straight	2 5/8	15/32	9/16	3 9/16
	830	3	3	1 11/16	1 1/8	1/2	" "	2 5/8	1/2	11/16	7 3/8
	835	2 7/8	2 7/8	1 3/8	1 1/8	1/2	Square—Straight	1 9/16	5/16	5/8	3 25/32
	844	3	2 7/16	1 9/16	1 3/16	1/2	Round—Straight	2 3/4	1/2	3/4	3 21/32
	847	4 7/8	4 5/16	1 1/16	1 5/8	3/4	" "	3 1/2	3/8	1 1/16	5 15/16
Made on Order Size	843	3	2 7/16	1 9/16	1 1/4	1/2	Round—Straight	2 3/4	1/2	21/32	3 21/32

Peerless and Atlas Chains

Cast Iron Sprocket Wheels for Peerless and Atlas Chains



Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

Peerless

No. 823

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
8▲*	10.45	S- 532			7¾
9▲*	11.71P	S- 385	11.71P	S- 385	9
10▲*	12.95	S- 736			10½
11▲*	14.20	S- 535			11½
12▲*	15.46	S-2249			13
14*	17.98	S-2250			15⅜
15*	19.24	S-2251			16¾
16*	20.51	S-2252			18
17*	21.81P	S- 386	21.81P	S- 386	19¼
19*	24.30	S-2253			21¼
24*	30.65	S-2254	30.75	S-2255	28
28*	35.79P	S-2256	35.79P	S-2256	33¼
38*	48.45	S-2257			46

No. 825

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
8▲*	10.43	S-2258	10.48	S-2259	6½
9▲*	11.72	S-2260			8¼
10▲*	12.94P	S- 357	12.94P	S- 357	9¾
11▲*	14.16	S-2261			11
12▲*	15.42	S-2262	15.49	S-2263	12¼
14▲*	17.93	S-1100	18.02	S-1031	14½
16*	20.45	S- 351			17½
18*	22.98	S- 686			19¾
23*	29.30	S- 969			26⅛
24*	30.57	S- 934			27¼
28*	35.64	S- 970			32½
37*	47.05	S-2264			43¾

No. 830

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
10*	19.46P	S- 435	19.46P	S- 435	15½
12*	23.42	S- 817			19¾
16*	30.87P	S-1090	30.87P	S-1090	27½

No. 835

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
23*	29.35	S-2265			26

No. 843

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
8*	15.65	S-2266			11
13*	25.03	S-2267			21

No. 844

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
9▲*	17.63P	S-1076	17.63P	S-1076	12½
10*	19.48	S-2268			15¼
12*	23.26	S-1050			19
13*	25.16	S-2269			20¾
15*	29.01P	S- 514	29.01P	S- 514	24½
19*	36.58	S-2270			32¼

No. 847

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
12▲*	23.28	S-1005			20½

Cast Steel Sprockets for Peerless Chains

No. 823

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
8▲	10.47P	60354	10.47P	60354	7¾
11	14.20	84	14.25	90	11½
19	24.30	83			21¾

No. 825

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
8▲			10.48	12340	6½
11▲	14.16	12339			11
14	18.02	S-1031			14¾
20	25.57P	26169	25.57P	26169	22¼

No. 844

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
10	19.52P	27547	19.52P	27547	15¼
11▲	21.37P	61719	21.37P	61719	17
13	25.20P	27548	25.20P	27548	20¾

Atlas

No. 620

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
10▲*	16.14	S-2271			12¾
13*	20.84	S-2272			17
18*			28.86	S-2273	25¾
33*			52.73	S-2274	49¾

No. 631

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
16*	30.69	S-2275			27
18*	34.48	S-2276			31
20*	38.28	S-2277			24¾

No. 710

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲*	9.43	S-1046	9.45	S-1995	6½
8▲*	12.31	S-1996	12.35	S-1997	9⅜
9▲*	13.78	S-1998	13.82	S-1999	10¾
10*	15.25	S- 306	15.30	S-2000	12¼
11*	16.73	S- 482	16.78	S- 870	15⅛
12*	18.21	S-2001	18.27	S-2002	15 11/16
13*	19.69	S-2003	19.75	S-2004	17 7/16
14*	21.18	S-2005			18⅝
16*	24.15	S-2006	24.23	S-2007	21¾
18*	27.14	S-2008			24⅝
20*	30.13	S- 376	30.22	S- 949	27⅝
24*	36.10	S-2009	36.22	S-2010	33½
28*	42.09	S-2011			39½
29*	43.59	S- 431	43.73	S-2012	41
31*	46.58	S-2013	46.73	S-2014	44

No. 730

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
8*	15.71P	S-2278	15.71P	S-2278	12⅜
9▲*	17.46	S-2279			14
10*	19.33	S-2280	19.50	S-2281	16
11*	21.20	S-2282			18
12*	23.08	S-2283			20
13*	24.96	S-2284			22
14*	26.84	S-2285			23¾
15*	28.73	S-2286			25¾
16*	30.61	S-2287	30.90	S-2288	27⅝
18*	34.39	S-2289			31¾
20*	38.18	S-2290	38.53	S-2291	35¾
26*			50.01	S-2292	47

▲ Plate Center Wheels; all others have arms.
* Indicates Wheels which can be furnished with Chilled Rims.
P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.

Flanged Idlers

For List Price—See Price List Bulletin

Peerless

Single Flange — No. 823

Actual Face Diam. Inches	Depth Flange Inches†	Pattern No.
18⅛	1¼	29693

Double Flange†† — No. 823

Actual Face Diam. Inches	Depth Flange Inches†	Pattern No.
12⅛	1½	3916
18⅛	1½	13210
22⅛	1½	29627

No. 825

Actual Face Diam. Inches	Depth Flange Inches†	Pattern No.
12	⅞	29666
18⅛	¾	29632

Nos. 835, 843 and 844

Actual Face Diam. Inches	Depth Flange Inches†	Pattern No.
16⅛	1 9/16	29633
20¼	1¼	29625

Atlas

Single Flange — No. 730

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
18⅛	1¼	29693
64	1½	60144

Double Flange†† — No. 620

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
12⅛	1 7/16	29672
18⅛	¾	29632

No. 631

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
18⅛	¾	29632

No. 730

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
13⅛	1¼	29684
18⅛	1½	13210
22⅛	1½	29627
26	1⅜	29628

†In use of Idlers, note that the Depth of Flange clears back of Attachments used.
††Not furnished in Chilled Rim for Double Flanged Idlers.

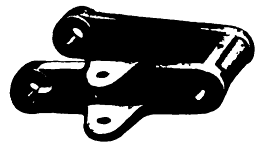
For Traction Wheels, see page 461.

Atlas Chains

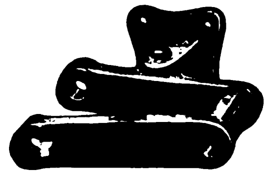
A Medium Priced Closed Joint Chain

This Chain is inter-changeable with similar chains of other makes and is extensively used in elevator service for handling semi or moderately gritty material

A Bucket Wing Attachment

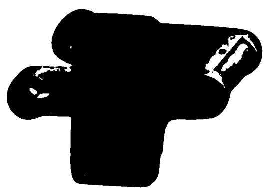


A53 Link

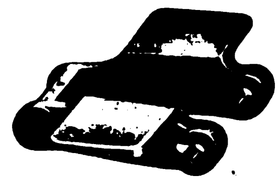


A53 with A Bucket Wing Attachment

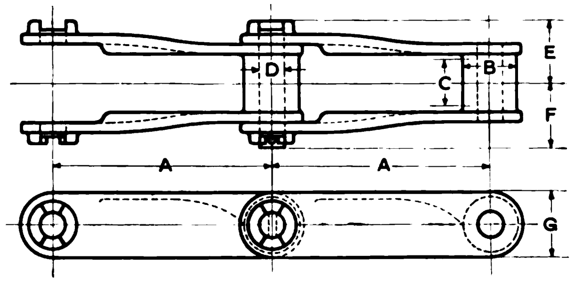
F2



G6



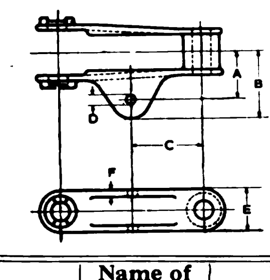
K2



For List Prices—See Price List Bulletin

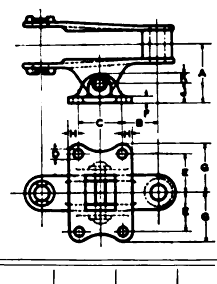
Chain ‡ No.	A Pitch Inches	Approx. Weight per Foot Lbs.	Working Strength at 150‡ F. P. M.	† Max. Speed in F. P. M.	B Diam. of Roller	C Max. Sprocket Width	D Diam. of Pin	Overall E	Overall F	Overall G
620	5.000	9.30	5000	450	1 27/32	1 1/4	15/16	1 31/32	2 9/32	1 7/8
631	6.000	8.10	5000	400	1 13/16	1 1/4	15/16	1 31/32	2 9/32	1 7/8
710	**4.720**	**6.30**	**3700**	**450**	**1 1/8**	**2 3/8**	**11/16**	**2 11/16**	**3**	**1 3/8**
***730**	**6.000**	**6.00**	**4500**	**400**	**1 1/2**	**1 1/8**	**3/4**	**2**	**2**	**1 3/4**

* Popular Size for General Service.
‡ Working Strengths in table are increased or decreased for speeds other than 150 feet per minute. See table page 429.
† Economical Speeds are half of Max. Speeds.
BOLD FACE TYPE INDICATES CARRIED IN STOCK SIZES to cover all reasonable demands; all others subject to occasional delays.



A-53 Attachment

(also A-53 with A Bucket Wing Attachment shown at right)

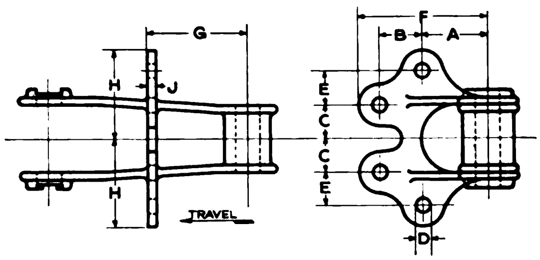


Class	Chain No.	Name of Attach-ments	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J	K
Carried in Stock Sizes	730	A-53	1 15/16	2 11/16	3	1/2	Round—Straight	1 3/4	5/16	....	....	....	....
	730	A-53 & 7A	2 7/8	1 7/8	2 1/4	3/8	" "	2	5/16	2 1/2	1/2	15/16	9/16
Made on Order Sizes	631	A-53	1 15/16	2 15/16	3	1/2	Round—Straight	1 7/8	3/8	....	....	....	....
	631	A-53 & 26A	3	1 27/32	2 5/16	3/8	" "	2	5/16	2 19/32	1/2	31/32	19/32

Atlas Chains

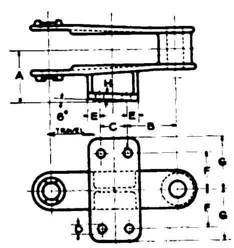
Attachments

F-2 Attachment



Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J
Carried in Stock Size	730	2	$1\frac{5}{16}$	1	$\frac{3}{8}$	Round—Straight	$1\frac{1}{8}$	$3\frac{15}{16}$	3	$2\frac{21}{32}$	$\frac{5}{16}$

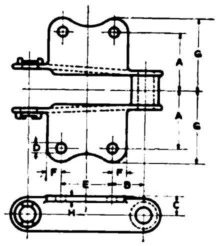
G-6 Attachment



Can be furnished right and left hand. Right hand shown.

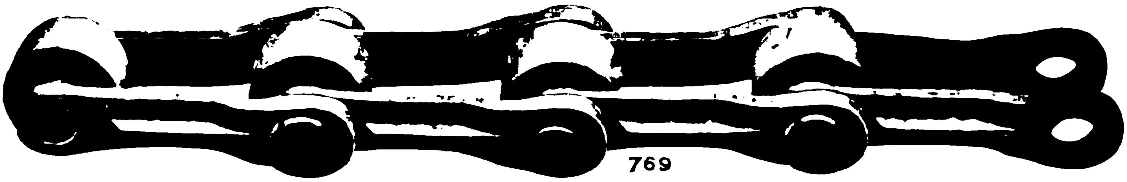
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Carried in Stock Size	730	$2\frac{1}{2}$	$2\frac{3}{8}$	$1\frac{1}{4}$	$\frac{3}{8}$	Round—Straight	$\frac{9}{16}$	$1\frac{3}{4}$	$2\frac{7}{16}$	$\frac{5}{16}$

K-2 Attachment



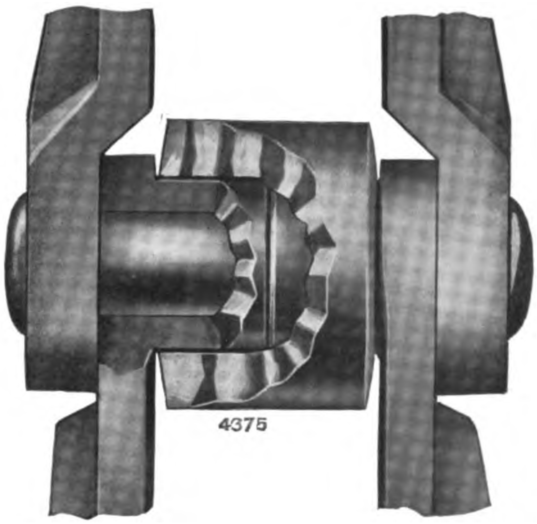
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Carried in Stock Sizes	710	$3\frac{1}{8}$	$1\frac{3}{16}$	$\frac{13}{16}$	$\frac{3}{8}$	Square—Countersunk	$2\frac{5}{16}$	$\frac{9}{16}$	$3\frac{11}{16}$	$\frac{1}{4}$
	730	3	$1\frac{11}{16}$	$\frac{15}{16}$	$\frac{1}{2}$	Round—Straight	$2\frac{5}{8}$	$\frac{3}{4}$	$3\frac{23}{32}$	$\frac{5}{16}$

Malleable Roller Chains


769

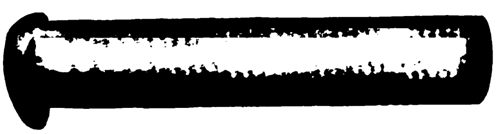
For Proper Direction to Run Chain, see pages 428, 429.

MALLEABLE Roller Chain is the least expensive of the roller type of chains and is adapted to more kinds of conveyors than any other type of malleable chain. It is used with elevators but its natural application is with conveyors where the weight carried makes the rollers operative thus reducing carrying friction and power. The best service is obtained when handling non-gritty, non-adhesive materials. Many of the shorter pitches make excellent drive chains.

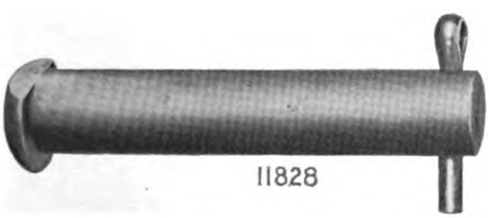

4375

Malleable Roller Chain is so constructed that the rollers revolve on bosses cast integral with the side bars, these bosses acting as thimbles. With the pins held rigidly in place in the outside bars, all wear is confined to the comparatively long surface of the bosses.

The holes for pin in the boss are reamed and those in the other end are punched, thereby insuring an accurate pitch.



Plain Rivet Pin


11828

Coupling Pin with Cotter

Roller Chains are made up with riveted pins, unless otherwise ordered. Chains made up with Coupling Pins throughout on order only, and at extra price. With all riveted chains we furnish coupling pins to join the ends so that they can be readily coupled up.

Malleable Roller Chains

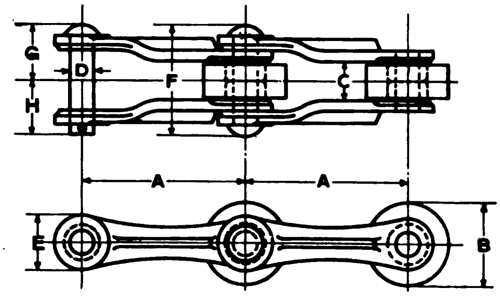
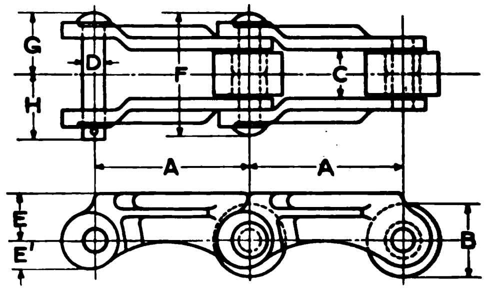


Diagram of Malleable Roller Chain shown at left.

Diagram of Roller Carrier Chain shown at right.



For List Prices—See Price List Bulletin

Chain No.	A Pitch In.	Approx. Weight per Foot	Working Strength ‡at 150 F.P.M.	**Max. Speed in F.P.M.	B Diam. of Roller	C Width Inside	D Dia. of Pin	E	E[1]	F Overall Riveted Chain	Overall Coupled Chain G	Overall Coupled Chain H
1	2.98	5.22	2575	600	1 7/16 M.I.	1 3/32	5/8	1 9/32	....	3 1/8	1 9/16	1 9/16
1 1/2D Spec.	**2.98**	**6.00**	**2575**	**600**	1 9/16 Steel	1 3/16	5/8	1 9/32	....		1 3/4	1 21/32
2	3.70	4.39	1850	600	1 13/32 M.I.	1 1/4	5/8	1 7/32	....	3 1/8	1 9/16	1 9/16
2 Spec.	**3.70**	**4.97**	**1850**	**600**	1 3/4 C.I.	1 1/4	5/8	1 7/32	....	3 1/8	1 9/16	1 9/16
3	4.04	5.54	3000	500	1 3/4 M.I.	1 1/4	11/16	1 1/2	....	3 5/16	1 21/32	1 11/16
3 1/2	4.04	6.00	3000	500	2 C.I.	1 1/4	11/16	1 1/2	....	3 5/16	1 21/32	1 11/16
5	5.08	8.52	4425	500	2 1/32 M.I.	1 1/2	7/8	2	....	4	2	2 5/32
5C	5.08	8.82	4425	500	2 1/2 C.I.	1 1/2	7/8	2	....	4	2	2 5/32
6	8.00	10.6	5000	300	2 19/32 C.I.	2	7/8	1 7/8	....	5 1/16	2 17/32	2 5/8
6C	8.00	10.6	5000	300	3 C.I.	2	7/8	1 7/8	....	5 1/16	2 17/32	2 5/8
9 1/2	2.98	1.92	950	700	1 1/2 C.I.	7/8	3/8	31/32	....	1 15/16	31/32	1 1/8
9 1/2 Spec.	**2.98**	**2.65**	**950**	**700**	1 1/2 C.I.	7/8	3/8	31/32	....	1 15/16	31/32	1 1/8
14	4.01	3.03	1600	600	1 7/16 C.I.	1 1/16	1/2	1 3/16	....	2 9/16	1 9/32	1 13/32
14 1/2	**4.01**	**3.30**	**1600**	**600**	2 C.I.	1 1/16	1/2	1 3/16	....	2 9/16	1 9/32	1 13/32
17	2.58	2.35	1000	700	1 5/32 M.I.	7/8	1/16	1	....	2 1/4	1 1/8	1 9/32
18	3.03	2.76	1475	700	1 9/64 M.I.	25/32	1/2	1 3/32	....	2 5/16	1 5/32	1 11/32
†21C	2.51	2.42	800	700	1 9/64 M.I.	25/32	11/32	3/4	13/32	2	1	1 3/32
†22C	3.13	4.30	1225	600	1 3/8 M.I.	1 11/32	7/16	7/8	9/16	3	1 1/2	1 23/32
†23C	4.05	6.32	1475	500	1 49/64 M.I.	1 5/16	5/8	1 1/8	3/4	3 3/8	1 11/16	1 27/32
40 1/2	4.00	2.93	900	600	2 C.I.	13/16	3/8	31/32	....	2	1	1 1/16
62	**1.65**	**2.07**	**900**	**700**	13/16 M.I.	15/16	3/8	27/32	....	2 1/16	1 1/32	1 1/16
124	4.05	7.23	3300	500	1 3/4 M.I.	1 1/2	3/4	1 9/16	....	3 5/8	1 13/16	2 1/16
126	6.00	5.70	3100	400	2 1/4 C.I.	1 5/16	11/16	1 3/8	....	3 1/4	1 5/8	1 23/32
126C	**6.00**	**7.70**	**3100**	**400**	3 C.I.	1 5/16	11/16	1 3/8	....	3 1/4	1 5/8	1 23/32
156	6.01	9.00	5000	300	2 1/4 M.I.	1 3/8	7/8	1 15/16	....	3 13/16	1 29/32	2 1/16
156C	**6.01**	**9.20**	**5000**	**300**	3 C.I.	1 3/8	7/8	1 15/16	....	3 13/16	1 29/32	2 1/16

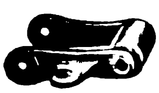
Bold Face Type Indicates Carried in Stock Sizes to cover all reasonable demands; all others subject to occasional delays.

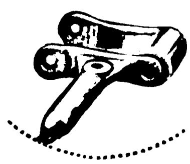
C. I. Indicates Cast Iron Rollers. M. I. Indicates Malleable Iron Rollers. † Roller Carrier Type.

‡**Working Strengths in Table** are increased or decreased for speeds other than 150 ft. per min. For other speeds see page 429. Use but half of values thus obtained for service in gritty materials.

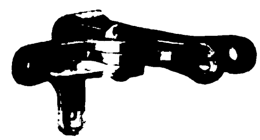
****Economical Speeds** are half of "Max. Speeds."

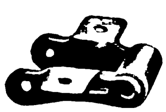
Attachments


A-42


A-42 and T 1-2


A-42 and C Flight Wing


A-42 and M Flight Wing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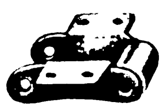
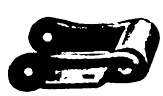
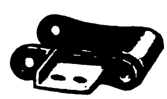
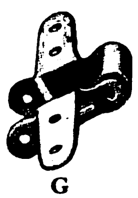
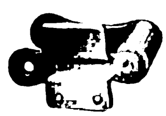
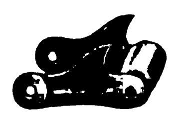

D1 and D1 Spec.


D-2


D-2 Spec.


G


G-9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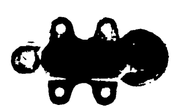
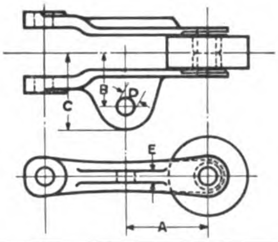

VE-1

Malleable Roller Chains

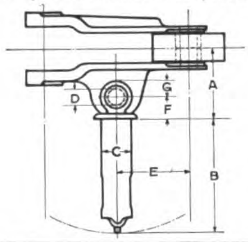
Attachments



A-42 Attachment

Class	Chain No.	A	B	C	D Dia. of Bolts	Kind of Holes	E
Carried in Stock Sizes	2 Sp.	1 27/32	1½	2⅛	½	Round—Straight	⅜
	9½ Sp	1½	1 7/16	1 15/16	⅜	" "	5/16
	14½	2	1 9/16	2⅛	⅜†	" "	5/16
	126C	3	2	2⅞	⅝	" "	7/16
	156C	3	2⅛*	3	⅝*	" "	7/16
Made on Order Sizes	2	1 27/32	1½	2⅛	½	Round—Straight	⅜
	3	2 5/16	2	2⅞	⅝	" "	7/16
	3½	2 5/16	2	2⅞	⅝	" "	7/16
	9½	1½	1 7/16	1 15/16	⅜	" "	5/16
	14	2	1 9/16	2⅛	⅜†	" "	5/16
	17	1 9/32	1 9/16	2 1/16	⅜	" "	5/16
	18	1 9/16	1½	2 1/16	⅜	" "	5/16
	126	3	2	2⅞	⅝	" "	7/16
	156	3	2⅛*	3	⅝*	" "	7/16

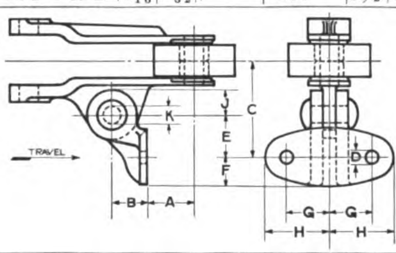
*B=2 5/16″ and C=½″ when used with T-1 & 2 Pipe Attachments. †Reamed for ½″ Rivet when used with M Flight Wing.



A-42 Attachment

With T 1 & 2
(Pipe Attachment)

Class	Chain No.	A	B	C	D Dia. of Lug	E	Number of Pipe Att.	F	G
Carried in Stock Sizes	2 Sp.	2 7/16	4¾	1¼	15/32	1 27/32	11T 1 & 2	15/16	21/32
	9½ Sp	2¼	4	1	7/16	1½	9T 1 & 2	13/16	9/16
	14½	2½	4¾	1¼	15/32	2	11T 1 & 2	15/16	21/32
	126C	3 3/16	4 13/16	1½	½	3	13T 1 & 2	1 3/16	21/32
	156C	3½	4 13/16	1½	½	3	13T 1 & 2	1 3/16	21/32
Made on Order Sizes	2	2 7/16	4¾	1¼	15/32	1 27/32	11T 1 & 2	15/16	21/32
	3	2 15/16	4¾	1¼	15/32	2 5/16	11T 1 & 2	15/16	21/32
	9½	2¼	4	1	7/16	1½	9T 1 & 2	13/16	9/16
	14	2½	4¾	1¼	15/32	2	11T 1 & 2	15/16	21/32
	17	2⅜	4	1	7/16	1 9/32	9T 1 & 2	13/16	9/16
	18	2 5/16	4	1	7/16	1 9/16	9T 1 & 2	13/16	9/16
	126	3 3/16	4 13/16	1½	½	3	13T 1 & 2	1 3/16	21/32
	156	3½	4 13/16	1½	½	3	13T 1 & 2	1 3/16	21/32



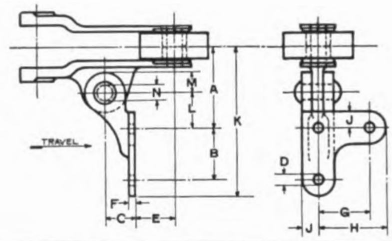
A-42 With C Flight Wing Attachment

Class	Chain No.	Name of Atts.	A	B	C	D Diam. of Bolts	E	F	G	H	J	K Dia. of Rivet
Carried in Stock Sizes	2 Sp.	A-42 & No. 22-C	27/32	1	3	⅜	1½	¾	1 17/32	2 7/32	⅝	½
	9½ Sp.	A-42 & No. 6-C	11/16	13/16	2 13/16	⅜	1⅜	¾	1¼	1⅞	9/16	⅜
	126C	A-42 & No. 6-C	1¾	1¼	3½	⅜	1½	1	1¾	2 5/16	⅞	⅝
Made on Order Sizes	2	A-42 & No. 22-C	27/32	1	3	⅜	1½	¾	1 17/32	2 7/32	⅝	½
	3	A-42 & No. 23-C	1 1/16	1¼	3½	⅜	1½	1	1¾	2 5/16	⅞	⅝
	3½	A-42 & No. 23-C	1 1/16	1¼	3½	⅜	1½	1	1¾	2 5/16	⅞	⅝
	9½	A-42 & No. 6-C	11/16	13/16	2 13/16	⅜	1⅜	¾	1¼	1⅞	9/16	⅜
	17	A-42 & No. 6-C	15/32	13/16	2 15/16	⅜	1⅜	¾	1¼	1⅞	9/16	⅜
	18	A-42 & No. 6-C	¾	13/16	2⅞	⅜	1⅜	¾	1¼	1⅞	9/16	⅜
	126	A-42 & No. 23-C	1¾	1¼	3½	⅜	1½	1	1¾	2 5/16	⅞	⅝

Malleable Roller Chains

Attachments

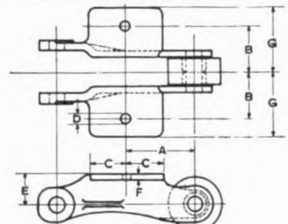
A-42
With M Flight Wing
Attachment



Can be furnished either Right or Left Hand Right Hand Shown

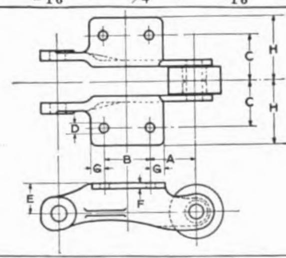
Class	Chain No.	Name of Atts.	A	B	C	D Diam. of Bolts	E	F	G	H	J	K	L	M	N Dia. of Rivet
Carried in Stock Sizes	14½	A-42 & No. 1-M	3 1/16	1¾	1	⅜	1	¼	1¾	2 7/16	11/16	5½	1½	11/16	½
	126-C	A-42 & No. 2-M	3½	2¼	1¼	⅜	1¾	¼	2¼	2 15/16	11/16	6 7/16	1½	⅞	⅝
	156-C	A-42 & No. 2-M	3⅝	2¼	1¼	⅜	1¾	¼	2¼	2 15/16	11/16	6 9/16	1½	⅞	⅝
Made on Order Sizes	14	A-42 & No. 1-M	3 1/16	1¾	1	⅜	1	¼	1¾	2 7/16	11/16	5½	1½	11/16	½
	126	A-42 & No. 2-M	3½	2¼	1¼	⅜	1¾	¼	2¼	2 15/16	11/16	6 7/16	1½	⅞	⅝
	156	A-42 & No. 2-M	3⅝	2¼	1¼	⅜	1¾	¼	2¼	2 15/16	11/16	6 9/16	1½	⅞	⅝

D
Attachment



Class	Chain No.	Name of Att.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Made on Order Sizes	1	D	1¾	1¾	13/16	⅜	Round—Straight	⅞	3/16	2⅜
	1	D Spec.	1½	1⅞	¾	½	" "	⅞	5/16	2⅜
	1½	D Spec.	1½	1⅞	23/32	½	" "	⅞	⅜	2⅜
	17	D	1¼	1¼	⅝	5/16	" "	⅝	5/32	1 11/16
	17	D Spec.	1¼	1 9/16	1 3/16	5/16	" "	13/16	5/32	2
	18	D	1 7/16	1⅜	11/16	5/16	" "	11/16	⅛	1¾
	18	D Spec.	1⅝	1 11/16	1	⅜	" "	¾	¼	2 11/16
	21C	D	1 5/16	1¼	⅝	¼	" "	¾	5/32	1⅞
	22C	D	1⅝	1 13/16	¾	5/16	" "	15/16	⅛	2 7/16

D-1
Attachment

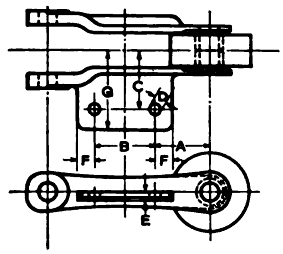


Class	Chain No.	Name of Att.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Carried in Stock Sizes	2 Sp.	D-1 Spec.	1½	1 1/16	1 13/16	5/16	Round—Straight	1 3/64	3/16	15/32	2 5/16
	9½ Sp	D-1	1 1/16	⅞	1¼	¼	" "	⅞	⅛	⅜	1 23/32
	14½	D-1	1⅜	1¼	1⅝	5/16	" "	1⅛	5/32	13/32	2 1/16
	126C	D-1	2	2	1 31/32	⅜	" "	1 5/16	7/32	19/32	2¾
	156C	D-1	2 5/64	1 27/32	2 13/16	⅜	" "	1 11/16	5/16	25/32	3½
Made on Order Sizes	2	D-1 Spec.	1½	1 1/16	1 13/16	5/16	" "	1 3/64	3/16	15/32	2 5/16
	3	D-1	1 5/16	1½	2⅛	⅜	" "	1 3/32	7/32	7/16	2⅝
	9½	D-1	1 1/16	⅞	1¼	¼	" "	⅞	⅛	⅜	1 23/32
	14	D-1	1⅜	1¼	1⅝	5/16	" "	1⅛	5/32	13/32	2 1/16
	126	D-1	2	2	1 31/32	⅜	" "	1 5/16	7/32	19/32	2¾
	156	D-1	2 5/64	1 27/32	2 13/16	⅜	" "	1 11/16	5/16	25/32	3½

Malleable Roller Chains

Attachments

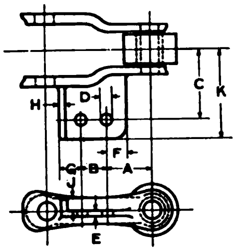
Can be furnished either
Right or Left Hand
Right Hand shown



D-2 Attachment

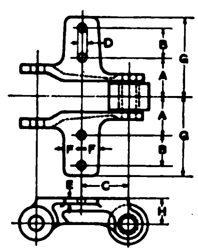
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Carried in Stock Sizes	2 Sp.	1 11/32	1 3/8	2	3/8	Round—Straight	1/4	3/8	2 9/16
	9½ Sp.	1 1/16	1 1/16	1 35/64	1/4	" "	1/8	5/16	2 1/32
	14½	1 5/16	1½	1 27/32	5/16	" "	7/32	7/16	2 3/8
	126C	2	2¼	2 3/16	3/8	" "	1/4	5/8	2 15/16
	156C	2	2¼	2 15/32	3/8	" "	11/32	1/2	3 21/32
Made on Order Sizes	2	1 11/32	1 3/8	2	3/8	Round—Straight	1/4	3/8	2 9/16
	9½	1 1/16	1 1/16	1 35/64	1/4	" "	1/8	5/16	2 1/32
	14	1 5/16	1½	1 27/32	5/16	" "	7/32	7/16	2 3/8
	40½	1 13/64	1½	1 27/32	5/16	" "	5/32	17/32	2 15/32
	126	2	2¼	2 3/16	3/8	" "	1/4	5/8	2 15/16
	156	2	2¼	2 15/32	3/8	" "	11/32	1/2	3 21/32

Can be furnished either
Right or Left Hand
Right Hand shown



D-2 Special Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J	K
Made on Order Size	3, 3½	1 21/32	1	2 5/8	3/8	Round—Straight	1/4	9/16	13/16	1/4	1/2	3 3/8



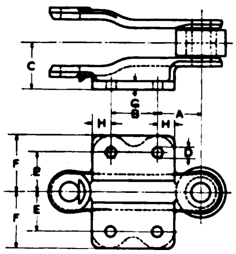
G Attachment

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Made on Order Size	23C	1 11/16	1 5/16	2 1/16	5/16	Round—Straight	7/32	23/32	3 7/16	1 1/8

Malleable Roller Chains

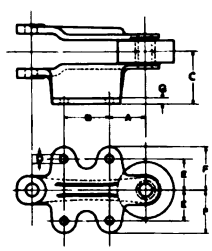
Attachments

G-9 Attachment



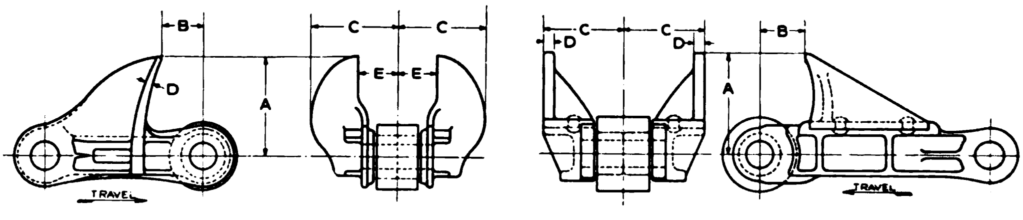
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Carried in Stock Sizes	126C 156C	$1\frac{29}{32}$ 2	$2\frac{5}{16}$ $2\frac{1}{8}$	$1\frac{3}{4}$ $2\frac{1}{8}$	$\frac{3}{8}$ $\frac{3}{8}$	Round—Straight " "	$1\frac{5}{8}$ $1\frac{13}{16}$	$2\frac{3}{16}$ $2\frac{9}{16}$	$\frac{5}{16}$ $\frac{11}{32}$	$\frac{19}{32}$ $\frac{27}{32}$
Made on Order Sizes	2 2 Sp. } 3 126 156	$1\frac{1}{16}$ $\frac{15}{16}$ $1\frac{29}{32}$ 2	$1\frac{9}{16}$ $1\frac{21}{32}$ $2\frac{5}{16}$ $2\frac{1}{8}$	$1\frac{9}{16}$ $1\frac{3}{4}$ $1\frac{3}{4}$ $2\frac{1}{8}$	$\frac{5}{16}$ $\frac{3}{8}$ $\frac{3}{8}$ $\frac{3}{8}$	Round—Straight " " " " " "	$1\frac{17}{32}$ $1\frac{3}{4}$ $1\frac{5}{8}$ $1\frac{13}{16}$	$1\frac{31}{32}$ $2\frac{1}{4}$ $2\frac{3}{16}$ $2\frac{9}{16}$	$\frac{7}{32}$ $\frac{7}{32}$ $\frac{5}{16}$ $\frac{11}{32}$	$\frac{7}{16}$ $\frac{17}{32}$ $\frac{19}{32}$ $\frac{27}{32}$

VE-1 Attachment



Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Carried in Stock Size	126C	$1\frac{29}{32}$	$2\frac{5}{16}$	$2\frac{3}{4}$	$\frac{3}{8}$	Round—Straight	$1\frac{5}{8}$	$2\frac{7}{32}$	$\frac{5}{16}$
Made on Order Size	126	$1\frac{29}{32}$	$2\frac{5}{16}$	$2\frac{3}{4}$	$\frac{3}{8}$	Round—Straight	$1\frac{5}{8}$	$2\frac{7}{32}$	$\frac{5}{16}$

Spur Attachment



S-1

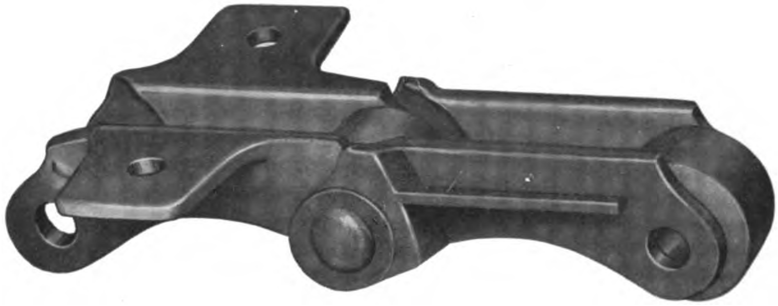
Class	Chain No.	A	B	C	D	E
Made on Order Size	5 & 5C	$3\frac{1}{8}$	$1\frac{5}{16}$	$2\frac{3}{4}$	$\frac{5}{16}$	$1\frac{1}{4}$

Spur

Class	Chain No.	A	B	C	D
Made on Order Size	6 & 6C	$3\frac{13}{16}$	$1\frac{3}{8}$	$2\frac{3}{4}$	$\frac{3}{8}$

Malleable Roller Chains

Roller Carrier Chains—Designed for Carrying Purposes, shown here with D Attachment

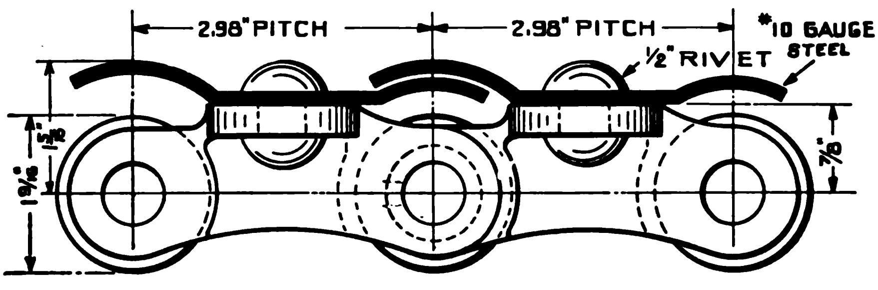


D Attachment **Plain Link**

In this chain, the side bars are raised above the top of rollers, so that merchandise placed directly upon the plain chain or upon slats attached to two strands of the same will not interfere with the working of the roller. Furnished in the plain chain or with attachments on both sides as shown, or on one side only.

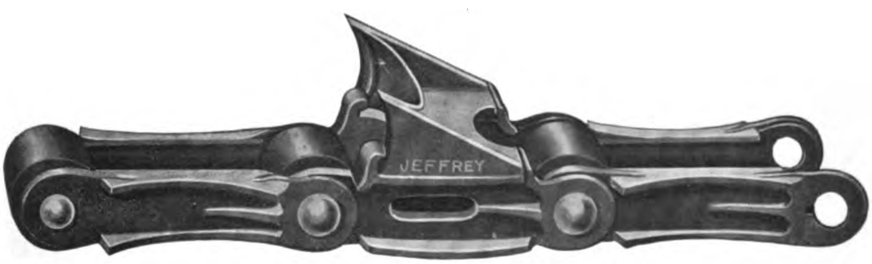
Sizes 21C, 22C and 23C are listed on page 484.

No. 1½ Roller Chain with D Spec. Attachments and Apron Flights



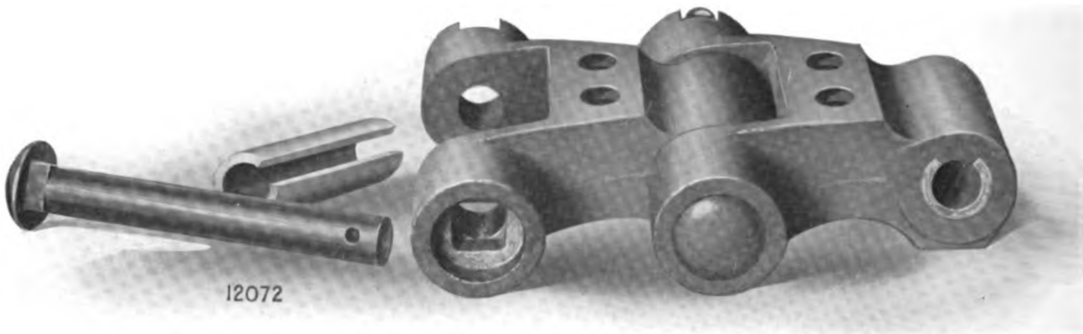
Cross-Section of an excellent carrier without retaining ends, made in 2 to 8 foot widths and upon 2 or 3 strands of chains. Originally used for intermediate carrier in sugar cane mills.

Malleable Roller Log Haul-Up Chains



Malleable Roller Log Haul-Up Chains are made in sizes 5, 5C, 6 and 6C. For list of Dimensions, see pages 484 and 488. For illustrations of other Log Spurs, see pages 509, 510 and 524.

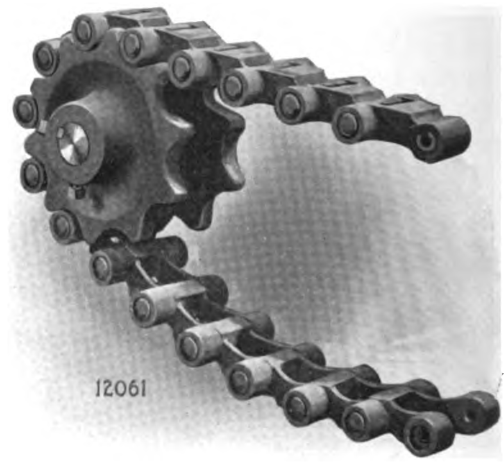
Intermediate Carrier Chain

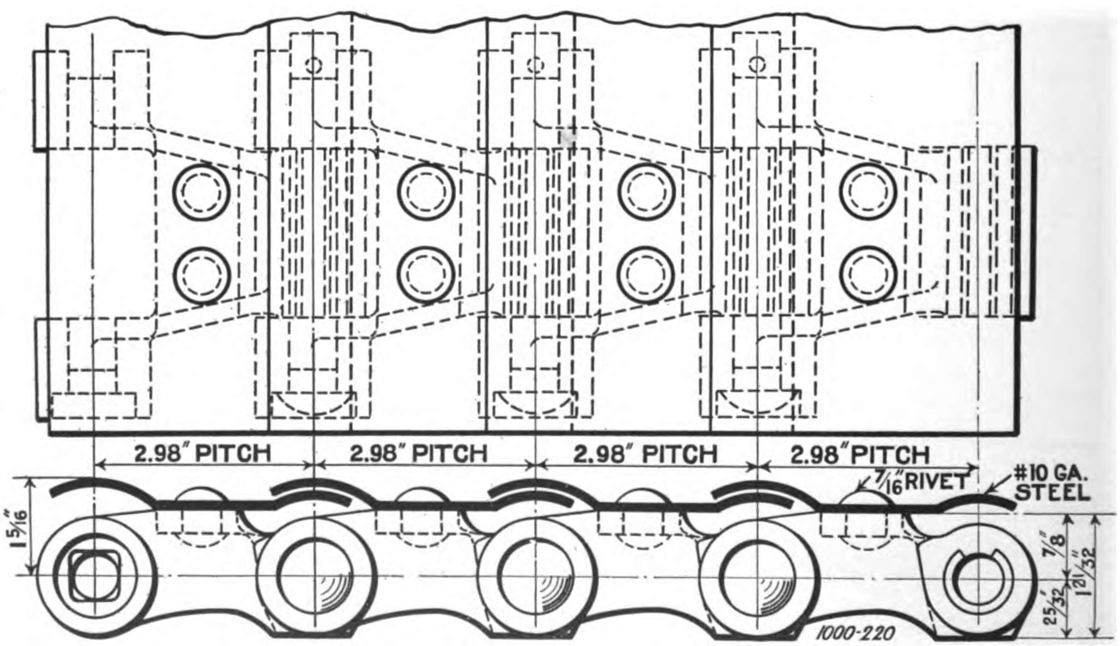


The parts of the link coming in contact with the guides are reinforced to allow for wear, thus adding to the life of the chain.

JEFFREY No. 1090 Chain is designed to work with drive sprockets in pairs placed on the outside of the link, which eliminates the packing of material under the flights often causing the chain to jump the sprockets.

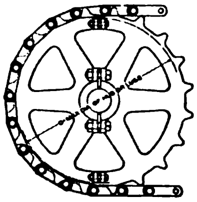
The chain is made of refined malleable iron and is fitted with renewable hardened steel bushings and square shank pins. It is interchangeable with No. 1½ M. R. except for the drilling for flights. Has a working strength of 3000 pounds and weighs 12 pounds per foot.





Assembly of Steel Apron on No. 1090 Chain.

Cast Iron Sprocket Wheels for Malleable Roller Chains



Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

No. 1

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲*	5.94	S-2293	5.98	S-2294	3 7/8
8▲*	7.79P	S-2295	7.81	S- 847	5 7/8
9▲*	8.69	S-2296	8.74	S-2297	6 7/8
10▲*	9.62	S- 963	9.67	S-2298	7 3/4
11▲*	10.55	S-2299	10.61	S-2300	8 11/16
12▲*	11.48	S-2301	11.55	S-2302	9 5/8
13▲*	12.42	S- 964	12.49	S- 962	10 5/8
14▲*	13.35	S-1078	13.43	S- 420	11 1/2
15▲*	14.29	S-2303	14.37	S-2304	12 7/16
16▲*	15.23	S- 960	15.32	S-2305	13 7/16
17*	16.17	S-2306	16.26	S-2307	14 1/4
18▲*	17.12P	S-2308	17.21	S-2309	15 1/4
20*	19.00	S-2312	19.10	S-2313	17 3/16
22*	20.88	S-2316			19 1/16
24*	22.77	S- 777	22.89	S-2317	20 7/8
25*	23.71	S-2318	23.84	S- 619	21 7/8
27*	25.60	S-2319	25.74	S-2320	23 3/4
29*	27.49	S- 550	27.64	S-2321	25 5/8
31*	29.37	S-2322	29.54	S-2323	27 1/2
34*	30.76	S-2324			28 7/8
38*	35.99	S-2325	36.19	S-2326	34 1/16
44*	41.66	S-2327	41.89	S-2328	39 3/4
50*	47.33	S-2329	47.59	S-2330	45 1/2

No. 1½

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲*	5.96P	S-2331	5.96P	S-2331	3 7/8
8▲*	7.79P	S-2332	7.79P	S-2332	5 3/4
10▲*	9.64P	S-2333	9.64P	S-2333	7 1/2
11▲*	10.58P	S-2334	10.58P	S-2334	8 1/2
12▲*	11.51P	S-2335	11.51P	S-2335	9 7/16
13▲*	12.45P	S-2336	12.45P	S-2336	10 3/8
16▲*	15.24	S-1093			13 5/16
19*	18.10P	S-2337	18.10P	S-2337	16
22*	20.94P	S-2338	20.94P	S-2338	18 3/4
25*	23.78P	S-2339	23.78P	S-2339	21 3/4

No. 2

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5▲*	6.28	S- 424	6.31	S-2340	3 3/4
7▲*	8.51	S-2341	8.54	S-2342	6 3/8
8▲*	9.65	S-2343	9.69	S-2344	7 3/4
9▲*	10.79	S-2345	10.84	S-2346	8 3/4
10▲*	11.95	S- 426	12.00	S- 421	10 3/16
11▲*	13.10	S-2347	13.16	S-2348	11 1/4
12▲*	14.26	S-2349	14.33	S-2350	12 3/16
13▲*	15.43	S-2351			13 3/4
14▲*	16.59	S-2352	16.67	S-2353	14 7/8
15*	17.76	S-2354	17.84	S-2355	16
17*	20.09	S-1020	20.18	S-2356	18 3/8
19*	22.43	S-2357	22.53	S-2358	20 3/4
20*	23.60	S-2359	23.71	S-2360	21 7/8
21*	24.77	S-2361	24.88	S-2362	23
24*	28.28	S-2363	28.41	S-2364	26 3/16
26*	30.62	S-2367	30.76	S-2368	28 7/8
30*	35.32	S-2369	35.48	S-2370	33 5/8
37*	43.53	S-2371			41 11/16
40*	47.05	S-2372	47.27	S-2373	45 3/8
51*	59.97	S-2374			58 1/4

No. 2 Special

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5▲*	6.27	S-2375			3 3/4
7▲*	8.51	S-2376			6
8▲*	9.65	S-2377	9.69	S-2378	7 3/8
9▲*	10.79	S-2379	10.84	S-2380	8 1/2
10▲*	11.95	S- 834	12.00	S- 836	9 11/16
11▲*	13.10	S-2381	13.16	S-2382	10 11/16

No. 2 Special (Cont'd)

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
12▲*	14.26	S-2383	14.33	S-2384	12
13*	15.43	S-2385	15.50	S-2386	13 1/4
14*	16.59	S-2387	16.66	S-2388	14 1/4
15*	17.76	S-2389	17.84	S 2390	15 1/2
17*	20.09	S-2391	20.18	S- 898	17 3/4
20*	23.60	S-2392	23.71	S-2393	21 1/4
23*	27.11	S-2394	27.23	S-2395	24 5/8
24	28.28	S-2396			26
25*	29.45	S-2397	29.59	S-2398	27 1/4
26*	30.63	S-2399	30.76	S-2400	28 3/8
30*	35.32	S-2401	35.48	S-2402	33 1/8
31*	36.49	S-2403			34 1/4
37*	43.53	S-2404	43.73	S-2405	41 1/4
50*	58.79	S-2406			56 1/2

No. 3

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲*			8.10	S-2407	5 1/4
8▲*	10.56P	S-2408	10.58	S-2409	8
9▲*	11.79	S- 533	11.84	S- 980	9 1/2
10▲*	13.04	S-2410	13.10	S-2411	10 3/4
11▲*	14.64	S-2412	14.71	S-2413	12 1/2
12*	15.58	S- 458	15.65	S- 516	13 3/8
13*	16.84	S-2414	16.92	S-2415	14 11/16
14*	18.11	S- 702	18.20	S- 942	15 11/16
16*	20.66	S-2416	20.76	S 2417	18 1/2
17*	21.94	S-2418	22.04	S-2419	19 3/4
18*	23.26P	S- 367	23.32	S-2420	21 1/16
20*	25.77	S- 403	25.88	S-2423	23 5/8
23*	29.61	S-2424	29.74	S-2425	27 1/2
24*	30.88	S- 703	31.02	S-2426	28 3/4
28*	36.08P	S-1021	36.08P	S-1021	33 7/8
30*	38.56	S-2427			36 1/2
33*	42.41	S-2430	42.59	S-2431	40 1/4
36*	46.25	S-2433			44
48*	61.63	S-2436			59 3/8
56*	71.93	S-3196			69 3/4

No. 3½

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
12▲*	15.61P	S- 720	15.61P	S- 720	13
18*	23.26P	S-2437	23.26P	S-2437	20 3/4
19*	24.54P	S-2438	24.54P	S-2438	22
20*	25.83P	S-2439	25.83P	S-2439	23 5/16
30*	38.65P	S-2440	38.65P	S-2440	36 1/8

No. 5

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
7▲*	11.68	S- 396	11.73	S-2441	8 5/8
8▲*	13.24	S-2442	13.30	S-2443	10 3/8
9▲*	14.82	S-2444	14.89	S-2445	12 1/8
10▲*	16.78	S-2446	16.86	S-2447	14
12▲*	19.58	S-2448	19.67	S- 887	17
15*	24.38	S-2449	24.49	S-2450	22
16*	25.98	S-2451	26.10	S-2452	23 1/2
17*	27.58	S-2453	27.71	S-2454	25 3/16
19*	30.79	S-2455	30.93	S-2456	28 3/8
20*	32.40	S-2457			30
22*	35.61	S-2460	35.78	S-2461	33 5/16
30*	48.49	S-2464	48.71	S-2465	46
38*	61.38	S-2466			59

No. 5-C

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
7▲*	11.68	S-2467			8 5/8
9▲*	14.82	S-2468	14.89	S-2469	12 1/8
10▲*	16.78	S-2470			14
12*	19.58	S- 330	19.67	S- 331	16 7/8

No. 5-C (Cont'd)

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
15*	24.38	S-2471	24.49	S-2472	21 11/16
17*	27.58	S-2473	27.71	S-2474	24 7/8
19*	30.79	S-2475	30.93	S-2476	28
20*	32.40	S-2477	32.55	S-2478	29 1/4
22*	35.61	S-2481	35.78	S-2482	32 7/8
25*	40.44	S-2483			37 3/4
27*	43.66	S-2484			40 11/16
30*	48.49	S-2485	48.71	S-2486	45 3/4

No. 6

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5▲*			13.63	S-2487	8 3/4
6*	15.98	S-2488	16.02	S-2489	11 1/2
8*	20.87	S-2490	20.94	S-2491	17
9*	23.36	S-2492			19 1/2
14*			36.00	S-2493	32 3/4

No. 6-C

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲*	15.98	S-2494			11 1/2
7*	18.41	S-2495			14 3/8
8▲*	20.87	S-2496	20.94	S-2497	17
10*	25.85	S-2498	25.93	S-2499	22
14*			36.00	S-2500	32 3/8

Nos. 9½ and 9½ Spec.

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲*	5.95	S- 832			4
7▲*	6.86	S- 831			4 7/8
8▲*	7.77	S-2501	7.80	S-2502	5 5/8
9▲*	8.70	S-2503	8.73	S-2504	6 5/8
10▲*	9.63	S-2505	9.66	S-2506	7 5/8
11▲*	10.56	S-2507	10.60	S-2508	8 1/2
12▲*	11.50	S-2509	11.54	S-2510	9 1/2
13▲*	12.43	S- 833	12.47	S-2511	10 1/2
15*	14.31	S-2512	14.36	S-2513	12 5/16
16*	15.25	S-2514			13 1/4
17*	16.18	S- 348	16.24	S- 349	14 5/16
19*	18.08	S-2515	18.14	S-2516	16 5/16
20*	19.02	S-2517			17
23*	21.82	S-2520	21.90	S-2521	19 11/16
25*	23.74	S-2522			21 1/4
31*	29.41	S-2523	29.50	S-2524	27 7/16
42*			39.81	S-2525	37 3/4

No. 14

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5▲*	6.81	S-2526	6.83	S-2527	4 5/16
7▲*	9.23	S- 436	9.26	S-2528	6 7/8
8▲*	10.46	S-2529	10.50	S-2530	8 1/4
9▲*	11.70	S-2531	11.74	S-2532	9 5/8
11▲*	14.21	S-2533	14.25	S-2534	12 1/4
12*	15.47	S-1096	15.52	S-2535	13 1/2
14*	17.99	S- 521			16 3/16
15*	19.25	S-2536	19.32	S-2537	17 1/2
16*	20.52	S-2538			18 3/4
18*	23.09P	S-2539	23.09P	S-2539	21 1/4
19*	24.32	S-1095	24.40	S-2540	22 3/16
23*	29.40	S-2541	29.50	S-2542	27 5/8
27*	34.48	S-2543	34.60	S-2544	32 3/4
31*	39.57	S-2545	39.70	S-2546	37 3/4
37*	47.20	S-2547	47.37	S-2548	45 1/2

No. 14½

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
7▲*	9.23	S-2549			5 5/8
8▲*	10.46	S-1138	10.50	S- 894	7 1/4

▲ Plate Center Wheels; all others have arms.

* Indicates Wheels which can be furnished with Chilled Rims.

P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.

Malleable Roller Chains

Cast Iron Sprocket Wheels for Malleable Roller Chains

Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

No. 14½ (Cont'd)

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
9▲*	11.70	S-2550	11.74	S- 915	8 3/4
11▲*	14.21	S- 374			11 5/8
12▲*	15.46	S- 463	15.52	S-2551	13
15*	19.25	S- 978	19.32	S-2552	16 3/4
16*	20.52	S-2553	20.59	S-2554	18
17*	21.82P	S-2555	21.82P	S-2555	19 5/16
19*	24.32	S-2556	24.40	S-2557	21 11/16
23*	29.40	S-2558	29.50	S-2559	26 7/8
27*	34.48	S-2560	34.60	S-2561	32
31*	39.57	S-2562	39.70	S-2563	37 1/16
37*	47.20	S-2564			44 3/4

No. 17

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5▲*	4.38	S-2091	4.40	S-2092	2 1/2
6▲*	5.15	S-2093	5.17	S-2094	3 1/2
7▲*	5.92	S-2095	5.95	S-2096	4 3/8
8▲*	6.73	S-2097	6.76	S-2098	5 1/8
9▲*	7.53	S-2099	7.56	S-2100	6 1/2
10▲*	8.33	S-2101	8.37	S-2102	6 11/16
11▲*	9.14	S-2103	9.18	S-2104	7 1/2
12▲*	9.95	S-2105	9.99	S-2106	8 5/16
14▲*	11.57	S-2107	11.62	S-2108	9 7/16
16▲*	13.20	S-2110			11 1/2
18▲*	14.82	S-2111	14.89	S- 873	13 3/16
19▲*	15.64	S-2112	15.71	S-2113	14
22*	18.09	S-2114	18.17	S-2115	16 7/16
24*	19.72	S-2116	19.81	S-2117	18 1/16
28*	22.99	S-2118			21 3/8
30*			24.74	S-2120	23 1/4
34*	27.90	S-2121	28.03	S-2122	26 1/4
36*	29.53	S-2123	29.67	S-2124	27 11/16
39*	32.02	S-2125			30 3/8
43*	35.27	S-2126	35.43	S-2127	33 5/8
44*			36.25	S-2128	34 3/8
48*	39.36	S-2129			37 3/4
54*	44.27	S-2130			42 5/8
58*	47.55	S-2131			45 7/8

No. 18

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲*	6.05	S-2565	6.07	S-2566	4
7▲*	6.97	S-2567			5 1/8
8▲*	7.90	S-2568	7.94	S-2569	6 1/4
9▲*	8.84	S-2570	8.88	S-2571	7 3/8
10▲*	9.78	S-2572	9.83	S-2573	8
11▲*	10.73	S-2574	10.78	S-2575	9 1/8
12▲*	11.68	S-2576	11.73	S-2577	10
13*	12.63	S-2578	12.69	S-2579	11
14*	13.59	S- 589	13.65	S- 780	11 13/16
15*	14.54	S-2580	14.61	S-2581	12 7/8
16*	15.50	S-2582	15.57	S-2583	13 7/8
18*	17.41	S-2586	17.49	S-2587	15 3/4
20*	19.33	S-2589	19.41	S-2590	17 3/4
25*	24.12	S- 588	24.23	S-2593	22 1/2
26*	25.08	S-1081	25.19	S-2594	23 7/16
28*	27.00	S-2595	27.12	S-2596	25 3/8
32*	30.85	S- 600	30.99	S-2597	29 3/16
35*	33.73	S-2598			32 1/16
38*	36.61	S-2601			35
42*	40.46	S-2602	40.64	S-2603	38 11/16
46*	44.30	S-2604			42 5/8
50*	48.15	S-2605	48.36	S-2606	46 1/2

No. 21-C

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5▲*	4.26	S-2607	4.28	S-2608	2 3/4
6▲*	5.01	S-2609			3 1/2
8▲*	6.55	S-2610	6.57	S-2611	5

No. 21-C (Cont'd)

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
10▲*	8.11	S-2612			6 9/16
12▲*	9.68	S-2613	9.72	S-2614	8 3/16
14*	11.28P	S- 132	11.28P	S- 132	9 7/8
15*	12.05	S-2615	12.10	S-2616	10 1/2
17*	13.66P	S- 133	13.66P	S- 133	12 1/4
19*	15.22	S-2617	15.28	S-2618	13 3/4
23*	18.40	S 2619	18.47	S-2620	16 7/8
30*	23.97	S-2621	24.06	S-2622	22 1/16

No. 22-C

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲*	6.20P	S- 116	6.20P	S- 116	4 3/4
8*	8.09	S-2623			5 1/2
9*	9.05	S-2624	9.08	S-2625	6 1/2
12*	11.96	S-2626	12.00	S-2627	9 1/2
16*	15.86	S-2628	15.92	S-2629	13 3/8
18*	17.82	S-2630	17.88	S-2631	15 3/8
20*	19.78	S-2632	19.86	S-2633	17 1/4
21*	20.80P	S- 134	20.80P	S- 134	19 3/16
24*	23.71	S-2634	23.79	S-2635	21 1/4
28*	27.64	S-2636			25 1/8
30*	29.60	S-2637	29.71	S-2638	27 1/8
36*	35.50	S-2639	35.63	S-2640	33

No. 23-C

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
4▲*	5.72	S-2641			2 3/4
5▲*	6.88	S-2642	6.90	S-2643	4
7▲*			9.35	S-2644	6 3/4
9▲*	11.82	S-2645	11.87	S-2646	9 7/16
12*	15.62	S-2647	15.68	S-2648	13 1/4
14*	18.16	S 2649	18.24	S-2650	15 3/4
16*	20.72	S-2651	20.80	S-2652	18 3/8
18*	23.27	S-2653	23.37	S-2654	20 7/8
23*	29.68	S-2655	29.81	S-2656	27 3/16
35*	45.09	S-2657	45.27	S-2658	42 5/8

No. 40½

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
7▲*	9.21	S-2659			6 3/4
8▲*	10.44	S-2660	10.47	S-2661	8
12*	15.43	S-2662	15.47	S-2663	13
15*	19.22	S-2664			16 3/4
17*	21.77P	S-2665	21.77P	S-2665	19 1/4
19*	24.27	S-2666	24.33	S-2667	21 3/4
23*	29.34	S-2668	29.41	S-2669	26 7/8
31*			39.59	S-2670	37

No. 62

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲	3.33	S-2671	3.35	S-2672	2
7▲	3.85P	S-2673	3.85P	S-2673	2 5/8
8▲	4.35	S-2674			3 1/8
9▲	4.87	S-2675			3 5/8
10▲	5.39	S-2676	5.42	S-2677	4 1/8
11▲	5.91	S-2678			4 11/16
12▲	6.43	S-2679			5 1/4
16▲			8.59	S-2680	7 3/8
17▲	9.06	S-2681			7 3/4
19	10.12	S-2682			8 7/8
20▲	10.68P	S-2683	10.68P	S-2683	9 1/2
22	11.70	S-2684	11.77	S-2685	10 1/2
23	12.26P	S-2686	12.26P	S-2686	11
25	13.28	S-2687			12
28	13.81	S-2688	13.90	S-2689	12 9/16
30			15.93	S-2690	14 3/4

No. 62 (Cont'd)

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
32	17.04P	S- 108	17.04P	S- 108	15 7/8
34	18.05	S-2691	18.16	S-2692	16 11/16
37	19.64	S-2693	19.75	S-2694	18 1/16
40	21.22	S-2695			20
47	24.93	S-2696	25.08	S-2697	23 3/4

No. 124

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲*			8.12	S-2698	4 3/4
7▲*	9.31	S-2699			6 5/8
9▲*	11.81	S-2700	11.87	S-2701	9
10▲*	13.07	S-2702	13.14	S-2703	10 5/8
11▲*	14.34	S-2704	14.41	S-2705	11 3/4
12*	15.61	S-2706	15.69	S-2707	13
13*			16.96	S-2708	14 5/8
14*	18.16	S- 491	18.25	S-2709	15 1/2
15*	19.43	S-2710	19.53	S-2711	16 3/4
16*	20.71	S-1073	20.81	S-2712	18
18*	23.27	S-2713	23.38	S- 490	20 1/2
20*	25.83	S-2716	25.95	S-2717	23
24*	30.95	S-2718	31.10	S-2719	28 1/4
26*	33.52	S-2720	33.68	S-2721	30 3/4
28*	36.09	S-2722	36.26	S-2723	33 3/4
31*	39.93	S-1074	40.13	S-2724	37 3/4
33*	42.41	S-2430			39 5/8
35*	45.07	S-1133			42 1/4
37*	47.64	S-2725	47.88	S-2726	45
46*	59.20	S-2727			56 3/8
56*			72.41	S-2728	69 1/2
60*	77.19	S-2729	77.57	S-2730	74 1/2

Nos. 126 and 156

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5▲*	10.19	S-2731			6
6▲*	11.98	S- 327	12.02	S- 325	8 1/4
7▲*	13.81	S- 452	13.85	S-2732	10 1/4
9▲*	17.52	S- 453	17.57	S- 451	14 1/4
10*	19.42P	S-2733	19.45	S-2734	16
12*	23.18P	S- 455	23.22	S-2735	20
13*	25.04	S-2736	25.10	S-2737	21 3/4
14*	26.92	S-2738	27.01	S- 829	23 7/8
15*	28.82	S- 667	28.90	S-2739	25 3/4
18*	34.50	S- 682	34.60	S-2740	31 1/4
19*	36.40	S-2741	36.51	S-2742	33 1/4
22*	42.10	S-2743			39
25*	47.80	S-2744	47.95	S-2745	44 1/2

Nos. 126-C and 156C

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲*	12.00P	S- 928	12.00P	S- 928	8 3/4
7▲*	12.81	S- 370			9 1/2
8▲*	15.68P	S- 652	15.68P	S- 652	12 1/4
9▲*	17.54P	S- 876	17.57	S-2747	14 1/4
10*	19.39	S- 874	19.45	S-2748	16
11*	21.26	S-2749			18
12*	23.22	S- 558	23.18P	S- 872	20
13*	25.04	S-2750	25.10	S-2751	21 3/4
14*	26.92	S-1047	27.01	S-1142	23 5/8
15*	28.82	S-2752	28.90	S-2753	25 1/2
16*	30.75P	S-2754	30.75P	S-2754	27 3/8
18*	34.50	S-2755	34.60	S-2756	31 1/4
19*	36.40	S-2757			33 1/8
22*	42.10	S- 995			38 1/4
25*	47.80	S- 103	47.94	S-1048	44 1/2
31*	59.22	S-2758	59.40	S-2759	56

▲ Plate Center Wheels; all others have arms.

* Indicates Wheels which can be furnished with Chilled Rims.

P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.

Malleable Roller Chains

Steel Sprockets for Malleable Roller Chains

Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

No. of Teeth	Driven: Pitch Diameter Ins.	Driven: Pattern No.	Driver: Pitch Diameter Ins.	Driver: Pattern No.	D Max. Dia. Hub or Lugs Ins.
No. 1					
6▲	5.94	4051			3 7/8
8▲	7.77	4050			5 7/8
10▲	9.62	921			7 3/4
11			10.61	4032	8 11/16
15▲			14.37	4033	12 7/16
20	19.05P	4034	19.05P	4034	17 3/16
31	29.54	S-2323	29.54	922	27 1/2
No. 1 1/2					
12▲	11.51P	29226	11.51P	29226	9 1/16
No. 2					
7	8.54	S-2342			6 3/8
No. 2 Special					
15	17.76	886			15 1/2
26	30.63	888	30.76	887	28 3/8
No. 3					
6			8.10	385	5 1/4
20	25.88	S-2423			23 5/8
24	30.95P	73	31.02	885	28 3/4
30	38.65P	80	38.65P	80	36 1/2
No. 3 1/2					
6▲	8.08P	27902	8.08P	27902	5 3/8
No. 5					
7	11.73	S-2441			8 5/8
No. 14					
11			14.25	208	12 1/4
No. 14 1/2					
9▲	11.72P	27695	11.72P	27695	8 3/4
14	18.02P	27696	18.02P	27696	15 1/2
15	19.29P	27694	19.29P	27694	16 3/4
No. 17					
9			7.56	206	6 1/2
28	22.99	207			21 3/8
58	47.55	878			45 7/8
No. 18					
11	10.75P	27518	10.75P	27518	9 1/8
28	27.12	S-2596			25 3/8
No. 21-C					
8▲	6.56P	60214	6.56P	60214	5
No. 62					
18▲	9.59	323			8 3/8
No. 124					
10	13.14	S-2703			10 3/8
12▲	15.69	S-2707	15.69	617	13
16	20.81	S-2712			18 1/8
24			31.10	690	28 1/4
37	47.64	735			45
Nos. 126 and 156					
6	11.98	527	12.02	526	8 1/4
7	13.81	605	13.85	606	10 1/4
10	19.45P	S-2734	19.45P	S-2734	16
12	23.15	717	23.22	654	20
13	25.10	S-2737			21 3/4
14▲			27.01	559	23 7/8
18			34.60	618	31 1/4
Nos. 126-C and 156C					
6▲	12.00P	27665	12.00P	27665	8 3/4
8			15.70	27666	12 1/4
9▲	17.52	13	17.54P	12	14 1/4
10	19.39	799	19.45	975	16
12▲	23.18P	61221	23.18P	61221	20
14	26.96P	105	26.96P	105	23 3/8
15	28.82	691			25 1/2
16▲	30.75P	29109	30.75P	29109	27 3/8
18	34.60	S-2756			31 1/4
19▲	36.45P	61222	36.45P	61222	33 1/8

▲ Plate Center Wheels.
P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.

Idlers for Jeffrey Malleable Roller Chains

Single Flanged—Prices Quoted on Application
Furnished in Cast Iron, Chilled Rim and Cast Steel

Actual Face Diam. Inch	Depth† Flange Inches	Pattern No.
Nos. 1, 2 and 2 Special		
8 1/8	7/8	29660
12 1/8	1 1/2	29686
16 1/4	1 9/16	29696
20 1/4	1 1/2	29634
24 3/16	1 1/2	29636
Nos. 3 and 124		
10	1 1/16	8200
31 3/8	2 1/2	29652
Nos. 5, 5C, 156, 156C		
10 1/8	1	29671
Nos. 6 and 6C		
12 1/8	5/8	29682
Nos. 14, 14 1/2		
12 1/8	1 1/2	29686
16 3/4	1 5/16	29669
20	1	29643
24	1 1/2	29641
30	1 5/8	29650
37 1/2	3/4	29645
Nos. 17, 18, 21C and 62		
19	1 1/2	29657
37 1/2	3/4	29645
Nos. 23C, 126 and 126C		
8 1/8	7/8	29660
12 1/8	1	29687
16 1/4	1 9/16	29696
22 1/4	2	29635
24 3/16	1 1/2	29636

No. 62
See No. 17 Malleable Roller

No. 124
See No. 3 Malleable Roller

Nos. 126, 126C
See No. 23C Malleable Roller

Nos. 156, 156C
See No. 5 Malleable Roller

Double Flanged Idlers—Prices Quoted on Application
Furnished in Cast Iron or Cast Steel, but not Chilled Rim

Actual Face Diam. Inch	Depth† Flange Inches	Pattern No.
Nos. 3 and 124		
12 1/8	1 7/16	3916
13 1/8	1 1/4	29684
Nos. 5, 5C, 156 and 156C		
21	1 3/8	29653
Nos. 6 and 6C		
12	7/8	29666
18 1/4	1 9/16	29626
No. 9 1/2 Special		
20	1 1/16	29690
23 7/16	1 1/4	29629
Nos. 14 and 14 1/2		
10 1/8	1 3/16	29668
14 3/8	7/8	60070
18	1 1/8	29630
23 1/8	1 3/16	29654
29 1/8	1 1/16	29647
Nos. 17, 18, 21C and 62		
10 3/16	1 1/16	29673
12 1/8	1 1/4	29658
16 1/4	7/8	29689
18	1 1/8	29630
23 1/8	1 3/16	29654
29 1/8	1 1/16	29647

No. 62
See No. 17 Malleable Roller

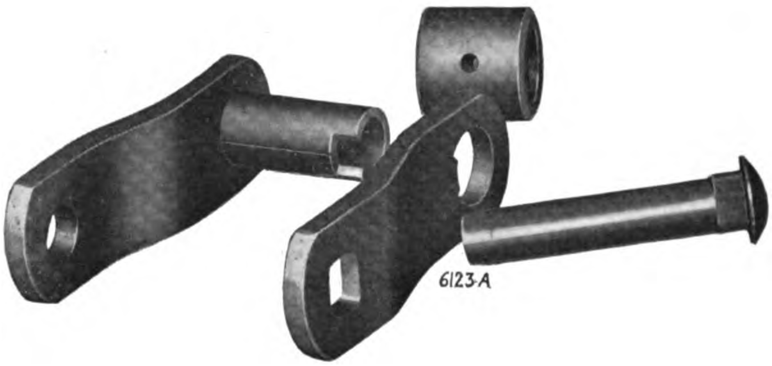
No. 124
See No. 3 Malleable Roller

Nos. 156 and 156C
See No. 5 Malleable Roller

†In use of Idlers, note that the depth of flange clears back of attachments used.

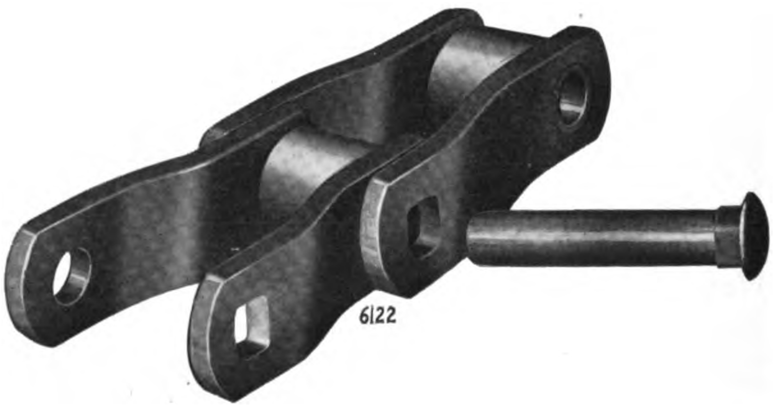
Steel Thimble Roller Chains

Steel Thimble Roller Chains, because of their high carbon steel side bars, hardened steel thimbles and their heat treated steel rollers and pins, are the highest type of chain in the whole elevating and conveying field.

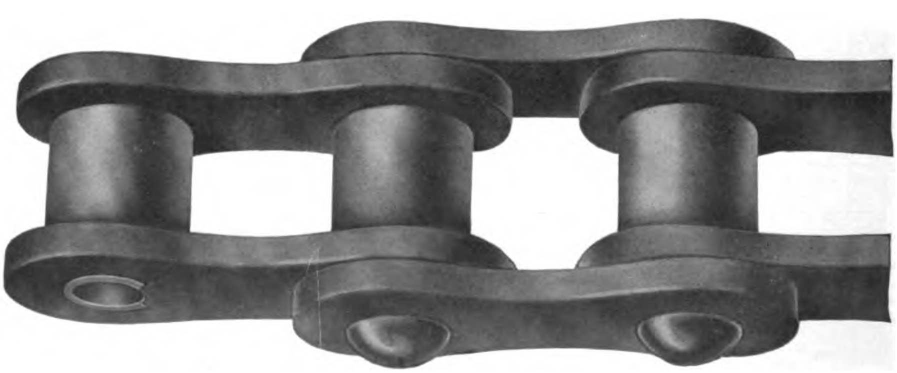


Detail of Parts and Method of Assembling

The Thimbles are fixed rigidly to the side bars insuring perfect alignment, by being notched on each end to fit the key effect in side bars. Note simplicity in construction and interchangeability of parts.



Above is shown the Roller in place on thimble. The hardened steel Square Shank Pins are firmly held in side bars preventing rotation, thus distributing wear the full length of thimble.

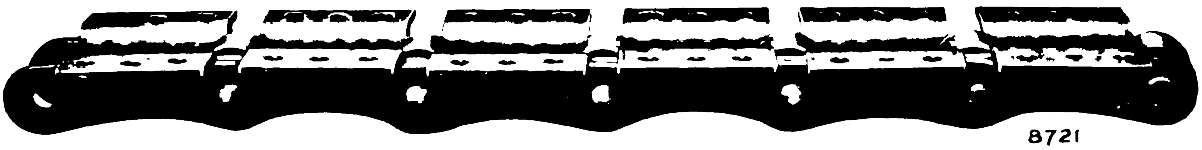


The smaller and lighter sizes of Steel Thimble Roller Chains make most excellent drive chains while the larger sizes are adapted to nearly all types of Elevators and Conveyors. These chains give the best service when they are not used in direct contact with sticky or gritty materials.

No chain will give better results under severe shocks and occasional overloads than the Steel Thimble Roller Chains.

Steel Thimble Roller Chains

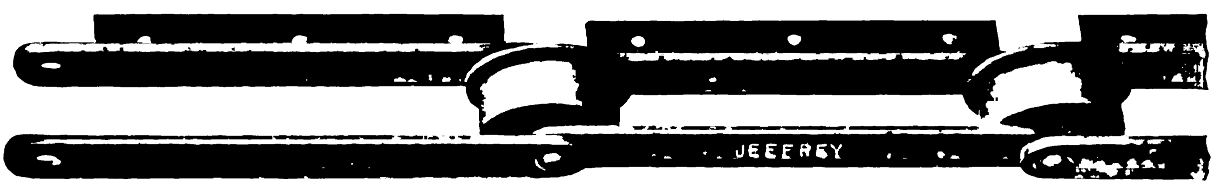
For Heavy Service



8721

The No. 1007 Steel Carrier Chain is a dependable general service chain of high grade materials for heavy Apron Service. It has met the exacting requirements of cane handling and similar uses.

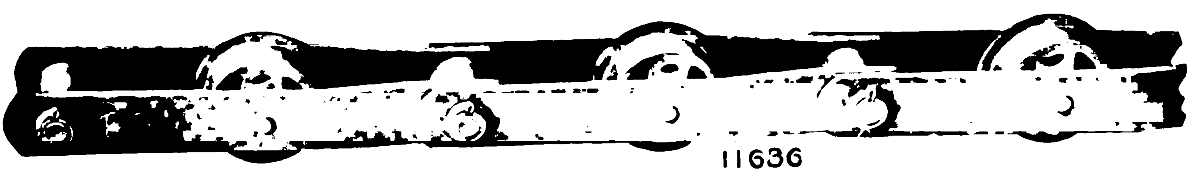
No. 809 Steel Thimble Roller Chain with extended bars inside, as shown above, is used extensively for Loading Booms and Apron Feeders in Tipples.



Nos. 276, 180, 182, 182½, 1092 and 1093 Chains are long pitch chains and when fitted with angle iron attachments are especially adapted for Apron Conveyors and Continuous Bucket Elevators of large capacities.

11637

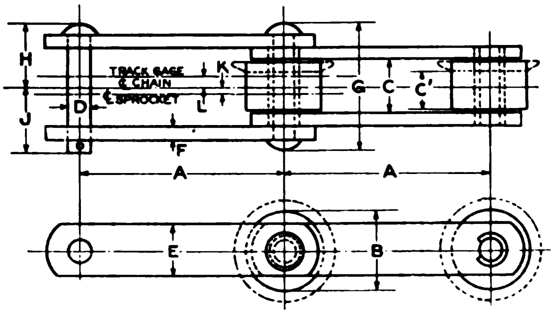
Nos. 987, 1018, 1072 and 1074 are double bushed type chains with white iron rollers. Made especially for Pivoted Bucket Carriers and similar service where the use of cross rods is essential.



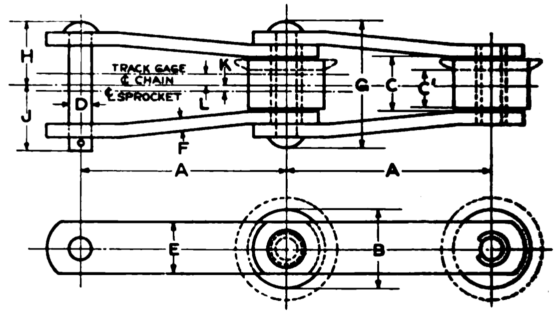
11636

Nos. 1076 and 1086 are very heavy long pitch double bushed knuckle type chains. The rollers have hardened renewable bushings. Strong and well fitted for heavy stone elevator service.

Steel Thimble Roller Chains



Style S—Straight Side Bars



Style O—Offset Side Bars

For List Prices—See Price List Bulletin

Chain Number	Style ***	A Pitch Inches	Approx. Wgt. in Lbs. Per Ft.	‡ Working Strength at 150 F. P. M.	** Max. Speed in F P M	Works on Sprocket Number	B Diam. of Roller	C Width Inside	C1	D Diam. of Pin	Side Bar E Width	Side Bar F Thickness	G Overall Riveted Chain	Overall Coupled Chain H	Overall Coupled Chain J	K	L
17	O	2.56	5.10	2100	700	17	1 1/8 S	29/32	......	1/2	1 1/4	1/4	2 3/8	1 3/16	1 9/32	......	—
27	O	2.98	6.90	2900	600	27	1 3/8 S	1 5/16	......	9/16	1 3/8	5/16	3 1/16	1 17/32	1 21/32	......	----
27 Sp.	O	2.98	6.90	2900	600	1 MR	1 1/2 S	1 5/16	......	9/16	1 3/8	5/16	3 1/16	1 17/32	1 21/32	......	----
SS-40	O	3.075	7.00	3900	650	103 Det.	1 1/4 S	1 1/2	......	5/8	1 1/2	5/16	3 5/16	1 21/32	1 13/16	......	----
112	O	4.04	15.70	5600	400	112	1 7/8 S	1 9/16	......	3/4	2	1/2	4 3/16	2 3/32	2 7/32	......	----
116	O	6.0	13.00	5700	400	116	1 7/8 S	1 9/16	......	3/4	2	1/2	4 3/16	2 3/32	2 7/32	......	----
120	O	3.07	7.10	3100	600	103 Det.	1 1/4 S	1 5/16	......	9/16	1 3/8	5/16	3 1/16	1 17/32	1 21/32	......	----
SS-124	O	4.063	17.35	7200	450	124 Det.	1 3/4 S	1 31/32	......	7/8	2 1/4	1/2	4 11/16	2 11/32	2 3/8	......	----
149	S	4.00	12.38	3700	500	149	2 1/4 S	1 1/4	......	5/8	1 1/2	3/8	3 5/16	1 21/32	1 13/16	......	----
180	S	12.00	14.20	6500	200	180	4 CF	2 1/2	1 5/8	7/8	2 1/2	3/8	4 11/16	2 11/32	2 1/2	1/4	7/16
182	S	18.00	16.70	6500	200	182	5 CF	2 1/2	1 11/16	7/8	2 1/2	3/8	4 11/16	2 11/32	2 1/2	1/4	1/2
182 1/2	S	18.00	18.60	9700	150	182	5 CF	2 1/2	1 11/16	1	2 1/2	1/2	5 1/4	2 5/8	2 3/4	1/4	1/2
234	O	3.507	15 90	5200	400	1114	1 5/8 S	1 1/4	......	3/4	2	1/2	3 15/16	1 31/32	2 3/32	......	----
276	S	12.00	12.20	5200	300	180	4 CF	2 1/16	1 1/4	3/4	2 1/2	5/16	3 15/16	1 31/32	2 5/32	1/4	1/4
301	O	3.25	10.19	3900	600	114 Det.	1 5/8 S	1 1/4	......	5/8	1 1/2	3/8	3 5/16	1 21/32	1 13/16	......	----
433 1/2	O	2.62	3.40	1900	700	78 Det.	7/8 S	1 1/8	......	7/16	1 1/8	1/4	2 9/16	1 9/32	1 7/16	......	----
575	O	5.06	25.20	7300	300	575	2 1/2 S	1 1/2	......	7/8	2 1/2	5/8	4 3/4	2 3/8	2 1/2	......	----
809	S	9.00	13.00	4500	350	809	3 1/2 CF	2 1/32	1 3/8	3/4	2 1/2	1/4	3 11/16	1 27/32	1 31/32	1/4	3/8
950	S	1.50	3.10	2100	800	950	3/4 S	25/32	......	3/8	1 1/8	3/16	1 15/16	31/32	1 1/16	......	----
951	S	6.00	9.25	3750	450	126 MR	3C	1 1/4	......	5/8	2	3/8	3 5/16	1 21/32	1 13/16	......	----
‘82	S	9.00	16.00	8000	315	809	3 1/2 CF	2 9/32	1 1/2	7/8	2 1/2	3/8	4 1/2	2 1/4	2 11/32	1/4	1/2
†987	S	24.00	19.00	12000	100	987	6 WI	3 1/8	1 13/16	1	3	3/8	......	3 1/8	3 1/8	9/32	5/8
††1007	S	6.0	15.00	5200	400	1007	2 3/4 C	1 9/16	......	3/4	2 1/4	3/8	3 11/16	1 27/32	1 31/32	......	----
†1018	S	18.0	18.30	8750	165	1018	5WI	2 3/4	1 3/4	7/8	2 3/4	5/16	......	2 3/4	2 3/4	5/16	9/16
†1072	S	30.0	20.00	15000	100	1072	7 WI	3 1/8	1 13/16	1	3 1/2	3/8	......	3 1/8	3 1/8	5/16	5/8
†1074	S	24.0	22.00	15000	100	987	6 WI	3 1/8	1 13/16	1	3 1/2	3/8	......	3 1/8	3 1/8	5/16	5/8
1076	O	30.00	30.00	25000	100	1076	7 CF	3 1/4	2	1 1/4	4	5/8	......	3 5/8	3 5/8	......	......
⊠1076 1/2	O	30.00	30.00	25000	100	1076	7 CF	3 1/4	2	1 1/4	4	5/8	......	3 5/8	3 5/8	......	......
1086	O	24.00	38.00	25000	100	1086	7 CF	3 1/4	2	1 1/4	4	5/8	......	3 5/8	3 5/8	......	......
1092	S	18.00	31.00	15600	100	1092	6 CF	2 3/4	1 13/16	1 1/4	3 1/2	5/8	......	3 3/32	3 1/4	5/16	15/32
1093	S	24.00	27.00	15600	100	987	6 CF	2 3/4	1 13/16	1 1/4	3 1/2	5/8	......	3 3/32	3 1/4	5/16	15/32
1094	O	2.30	2.75	1400	700	77 Det.	3/4 S	25/32	......	3/8	1	3/16	1 15/16	31/32	1 1/32	......	----
*1095	S	12.00	14.00	6500	200	180	4 C	2 1/2	......	7/8	2 1/2	3/8	4 11/16	2 11/32	2 1/2	......	----
⊙1105	S	18.00	19.26	9700	150	182	5 C	2 1/2	......	1	2 1/2	1/2	5 1/4	2 5/8	2 3/4	......	----
1106	S	12.00	39.06	15600	100	1106	6 CF	2 3/4	1 13/16	1 1/4	3 1/2	5/8	......	3 3/32	3 1/4	5/16	15/32
§1107	S	12.00	11.92	5200	300	180	4 C	2 1/16	......	3/4	2 1/2	5/16	3 15/16	1 31/32	2 5/32	......	----
1114	O	3.507	11.30	3700	500	1114	1 5/8 S	1 1/4	......	5/8	1 1/2	3/8	3 5/16	1 21/32	1 13/16	......	----
1126	O	6.00	8.70	3700	400	126MR	2 1/4 S	1 1/4	......	5/8	1 1/2	3/8	3 5/16	1 21/32	1 13/16	......	----
1126C	O	6.00	9.40	3700	400	126CMR	3 C	1 1/4	......	5/8	1 1/2	3/8	3 5/16	1 21/32	1 13/16	......	----

Chains **in Bold Face Type** are **"Carried in Stock."** All others are "Made on Order", and are subject to occasional delays.

†Chains No. 987, 1018, 1072 and 1074 are double bushed and furnished with white iron rollers with ground bores. These chains are ordinarily used with cross rods. If cross rods are required they must be indicated on order.

‡**Working Strengths in Table** are increased or decreased for speeds other than 150 ft. per min. See Table page 429 and use but half of values thus obtained for service in gritty conditions.

****Economical Speeds** are Half of "Max." Speeds in Table above.

Roller Dimensions: "S" is Steel Roller without Flange; "C" is Cast Iron Roller without flange; "CF" is Cast Iron Roller with flange; "W I" is White Iron with flange.

***Style "S" or "O" refers to "straight" or "offset" links—see above line sketches.

††All K-2 attachments. See top of page 495 and 124.

⊠Number 1076 1/2 same as No. 1076 except thru rod is omitted and pin used in its place.

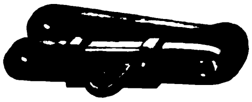
*Same as No. 180 except Straight Face Roller is used.

⊙This Chain is the same as No. 182 1/2 except fitted with a Straight Face Roller instead of a Flanged Roller.

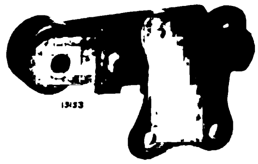
§Same as No. 276 except Straight Face Roller.

Steel Thimble Roller Chains

Attachments



A-42
(Malleable)

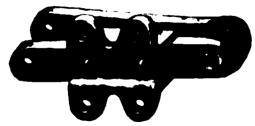


A-42 With A Bucket Wing

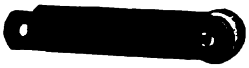
A-42 With C Flight Wing
(Malleable)

A-53
(Malleable)

A-53 With C Flight Wing
(Malleable)



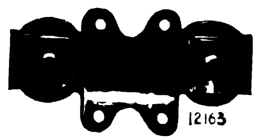
G-9
(Malleable)



D-11
For Double Beaded Aprons

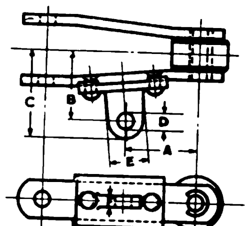
D-11½
For Perfect Discharge Aprons

K-2½



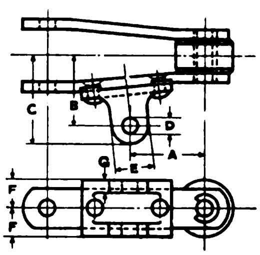
VE-1

D-11 and D-11½ are especially adapted to chains, page 495, in Picking Table and Loading Boom Service, pages 180, 182 and 184.



A-42 Attachment
(Malleable)

Class	Chain No.	A	B	C	D Diam. of Bolt or Rivet	Kind of Hole	E	F
Made on Order Size	1126 & 1126C	2 11/16	2 11/16	3 3/8	5/8	Round—Straight	1 1/2	7/16

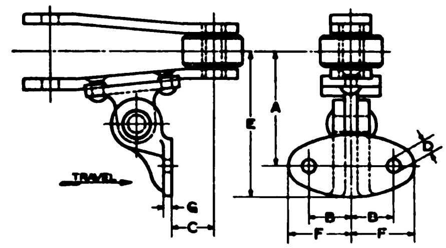


A-53 Attachment
(Malleable)

Class	Chain No.	A	B	C	D Diam. of Bolt or Rivet	Kind of Holes	E	F	G
Made on Order Sizes	116	3 1/4	2 21/32	3 17/32	5/8	Round—Straight	2	1 3/16	7/16
	1126 } 1126C }	3	2 5/8	3 1/2	5/8	" "	1 3/4	1 5/32	13/32

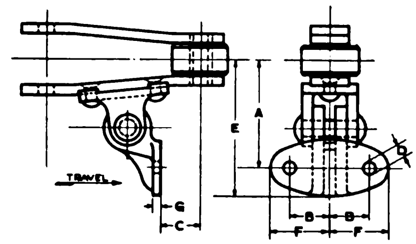
Steel Thimble Roller Chains

A-42
With C Flight Wing
Attachment
(Malleable)



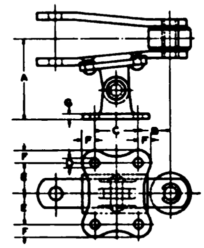
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	Name of Attachments
Made on Order Size	1126 & 1126C	4 3/16	1 3/4	1 3/16	3/8	Round—Straight	5 3/16	2 5/16	1/4	1126 A-42 and No. 23C Flight Wing

A-53
With C Flight Wing
Attachment
(Malleable)



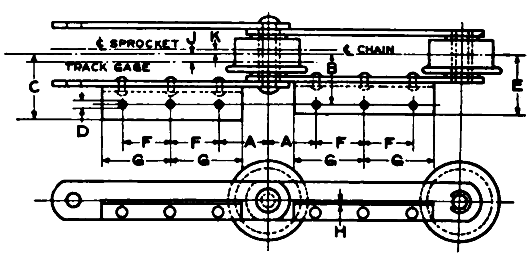
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	Name of Attachments
Made on	116	4 5/32	1 3/4	2	3/8	Round—Straight	5 5/32	2 5/16	1/4	116 A-53 and No. 23-C Flight Wing
Order Sizes	1126 1126C	4 1/8	1 3/4	1 3/4	3/8	" "	5 1/8	2 5/16	1/4	1126 A-53 and No. 23C Flight Wing

A-42
With A Bucket Wing
Attachment
(Malleable)



Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	Name of Attachments
Made on Order Size	1126 & 1126C	3 15/16	1 11/16	2 1/4	3/8	Round—Straight	1 13/32	21/32	1/4	1126 A-42 and No. 25A Bucket Wing

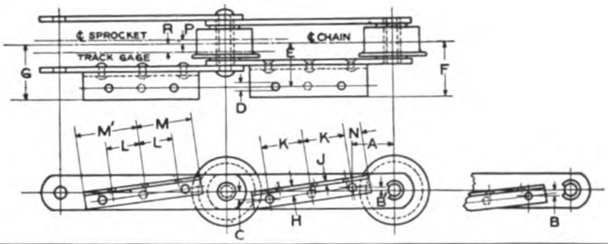
D-11
Attachment
(Steel)



Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J	K
Made on Order Sizes	180	3	3 1/8	4	1/2	Round—Straight	3 5/8	3	4 3/8	1/4	7/16	1/4
	182	3 5/16	3 3/8	4	1/2	" "	4 1/8	5 11/16	7 1/4	1/4	1/2	1/4
	182 1/2	3 5/16	3 3/8	4 1/4	1/2	" "	4 1/4	5 11/16	7 1/4	1/4	1/2	1/4
	276	3	2 3/4	3 11/16	1/2	" "	3 7/8	3	4 1/4	1/4	1/4	1/4

Steel Thimble Roller Chains

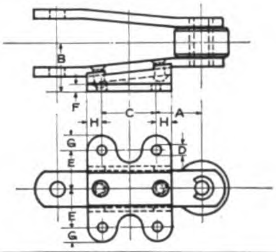
Can be furnished either right or left hand
Right hand shown.



D-11½ Attachment
(Steel)

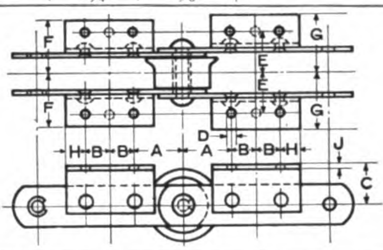
Class	Chain No.	A	B	B1	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J	K	L	M	M1	N	P	R	No. of Holes*
Made on Order Sizes	180	3	....	3/16	9/16	½	Round—Straight	3⅛	4⅛	4	¾	¼	3	2⅜	4¼	4¼	1¼	¼	7/16	3
	182	3⅜	....	9/32	19/32	½	" "	3⅜	4⅛	4	¾	¼	5½	5⅜	6 13/16	6⅜	1	¼	½	3
	182½	3⅜	....	9/32	19/32	½	" "	3⅜	4¼	4¼	¾	¼	5½	5⅜	6 13/16	6⅜	1	¼	½	3
	276	2 13/16	....	7/32	9/16	½	" "	2¾	3 19/32	3 21/32	¾	¼	3⅛	2⅜	3¾	3¾	⅝	¼	¼	3
	809	2 9/16	1/16	....	¾	½	" "	2¾	3¾	3½	¾	¼	2	1½	2 9/16	2 9/16	9/16	¼	⅜	2†

*Number of holes in each leg of angle. †Attachment center hole omitted.



G-9 Attachment
(Malleable)

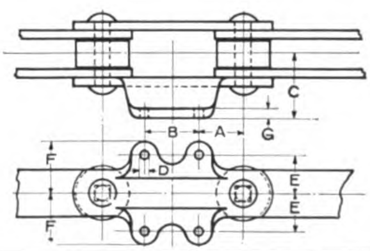
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Made on Order Sizes	116	2 1/16	2 15/32	2¼	½	Round—Straight	1⅞	5/16	⅝	⅞
	1126 & 1126C	1⅞	2	2¼	⅜	" "	1 19/32	5/16	⅝	⅝



K-2½ Attachment
(Steel)

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J	No. of Holes
Made on Order Sizes	*180	3	3	2¾	½	Round—Straight	3⅜	4⅛	4½	1	¼	4
	182	3½	5½	3¼	½	" "	3⅞	4⅝	5	1½	5/16	6
	182½	3½	5½	3¼	½	" "	3⅞	4¾	5¼	1½	5/16	6
	*276	3	3	2¾	½	" "	3 1/32	3 21/32	4 5/32	1	¼	4
	*809	2¾	1¾	2½	½	" "	2½	3¼	3½	1	¼	4
	*951	2	1	1 5/16	⅜	" "	2 5/16	3	2⅞	¾	¼	4
	†1007	1½	1½	1⅝	½	" "	2 3/16	2 23/32	2 23/32	1	⅜	6
	*1095	3	3	2¾	½	" "	3⅜	4⅛	4½	1	¼	4
	1105	3½	5½	3¼	½	" "	3⅞	4¾	5¼	1½	5/16	6
	*1107	3	3	2¾	½	" "	3 1/32	3 21/32	4 5/32	1	¼	4

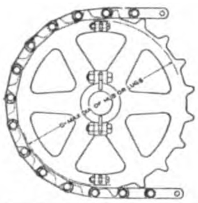
*Center hole omitted.
†See page 124.



VE-1 Attachment
(Steel)

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Made on Order Size	951	1 21/32	2 5/16	2¾	⅜	Round—Straight	1⅝	2 3/16	⅜

Steel Thimble Roller Chains



Cast Iron Sprockets for Steel Thimble Roller Chains

Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
No. 17					
6*▲	5.11	S-1069	5.13	S-2760	2⅞
7*▲	5.88	S- 445	5.92	S- 444	3¾
8*▲	6.67	S- 688	6.71	S- 462	4⅝
9*▲	7.46	S-2761	7.50	S-2762	5½
10*▲	8.26	S-2763	8.31	S-2764	6¼
11*▲	9.06	S- 776	9.11	S-2765	7
12*▲	9.87	S- 871	9.92	S-1014	7⅞
14*▲	11.47	S- 987	11.53	S-2766	9⅝
15*▲	12.28	S-2767	12.35	S-1012	10⅜
16*▲	13.09	S-2768	13.16	S-2769	11 3/16
17*	13.89	S-2770	13.97	S- 901	12
18*	14.70	S-2771	14.78	S-2772	12⅞
20*	16.32	S-2773	16.41	S-2774	14½
22*	17.94	S-1087	18.04	S-2775	16
24*	19.56	S-1109	19.66	S-2776	17¾
25*	20.37	S-2777	20.48	S- 626	18½
27*	21.99	S- 841			20 3/16
28*	22.81	S-2778	22.93	S-2779	21
30*	24.43	S-1088	24.55	S-2781	22⅝
33*	26.86	S-2783	27.00	S-2784	25
34*	27.75P	S-2785	27.75P	S-2785	25⅞
36*	29.29	S- 933	29.45	S- 676	27½
40*	32.63P	S- 497	32.63P	S- 497	30 11/16
42*	34.17	S-2786	34.35	S-2787	32⅜
44*	35.79	S-1091	35.97	S-2789	34
48*	39.04	S- 689	39.25	S-2790	38¼
52*	42.29	S- 842			40½
58*	47.16	S- 959	47.41	S-2791	45⅜
60*▲	48.78	S- 418			47
No. 27					
6*▲	5.95	S-2792			3¼
7*▲	6.85	S-2793	6.88	S-2794	4¼
8*▲	7.77	S- 512			5¼
9*▲	8.69	S- 579	8.73	S- 364	6¼
10*▲	9.62	S-2795	9.67	S-2796	7¼
11*▲	10.55	S-2797	10.60	S-2798	8⅛
12*	11.48	S- 938	11.54	S-2799	9⅛
12*	12.42	S-2801	12.45P	S-2800	10⅛
14*	13.39P	S-1124	13.39P	S-1124	11⅛
15*▲	14.30	S- 809	14.37	S-2802	12
16*	15.24	S-2803	15.31	S-2804	13
17*	16.22P	S-2805	16.22P	S-2805	14
18*	17.12	S-2308			16⅞
19*	18.06	S-2806			17⅞
23*	21.83	S-1140	21.94	S-2807	19⅝
24*	22.77	S-1134			20½
25*	23.84P	S- 619	23.84P	S- 619	21⅝
29*	27.49	S-2808			25¼
32*	30.33	S-2809			28
36*	34.10	S-2810			31½
38*	36.00	S-2811			33¾
44*	41.67	S-2812	41.88	S-2813	39⅜
45*	42.61	S-2814			40⅜
No. 27 Special (Same as No. 1 MR)					
6*▲	5.94	S-2293	5.98	S-2294	3⅞
8*▲	7.79P	S-2295	7.81	S- 847	5⅞
9*▲	8.69	S-2296	8.74	S-2297	6⅞
10*▲	9.62	S- 963	9.67	S-2298	7¾
11*▲	10.55	S-2299	10.61	S-2300	8 11/16
12*▲	11.48	S-2301	11.55	S-2302	9⅝
13*▲	12.42	S- 964	12.49	S- 962	10⅝
14*▲	13.35	S-1078	13.43	S- 420	11½
15*▲	14.29	S-2303	14.37	S-2304	12 7/16
16*▲	15.23	S- 960	15.32	S-2305	13 7/16
17*	16.17	S-2306	16.26	S-2307	14¼
18*	17.12P	S-2308	17.21	S-2309	15¼
20*	19.00	S-2312	19.10	S-2313	17 3/16
22*	20.88	S-2316			19 1/16
24*	22.77	S- 777	22.89	S-2317	20⅞
25*	23.71	S-2318	23.84	S- 619	21⅞
27*	25.60	S-2319	25.74	S-2320	23¾
29*	27.49	S- 550	27.64	S-2321	25⅝
31*	29.37	S-2322	29.54	S-2323	27½
34*	30.76	S-2324			28⅞
38*	35.99	S-2325	36.19	S-2326	34 1/16

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
No. 27 Special—Cont'd.					
44*	41.66	S-2327	41.89	S-2328	39¾
50*	47.33	S-2329	47.59	S-2330	45½
Nos. SS-40 and 120 (Same as No. 103 Det.)					
6*▲	6.14	S-1954	6.16	S-1955	3⅞
7*▲	7.09P	S- 704	7.10	S-1956	4¾
8*▲	8.04P	S-1957	8.05	S-1958	5¾
9*▲	8.99P	S-1036	8.99P	S-1036	6⅝
10*▲	9.95P	S-1959	9.97	S-1131	7⅝
11*▲	10.92P	S-1960	10.94	S 1961	8⅝
12*▲	11.85	S-1041	11.91	S-1962	9⅝
13*▲	12.85P	S-1963	12.88	S-1964	10½
14*▲	13.82P	S-1965	13.85	S-1966	11½
15*▲	14.79P	S- 114	14.79P	S- 114	12½
16*▲	15.76P	S- 728	15.76P	S- 728	13½
17*▲	16.74P	S-1967	16.78	S 1968	14⅜
18*▲	17.71P	S-1026	17.75	S-1969	15⅜
19*	18.68P	S-1970	18.73	S-1971	16⅜
20*	19.66P	S-1051	19.71	S- 713	17¼
21*	20.63P	S-1972	20.68	S-1973	18¼
22*	21.61P	S-1974	21.66	S-1975	19¼
23*	22.58P	S- 551	22.64	S-1976	20¼
24*	23.56P	S- 883	23.62	S-1099	21¼
26*	25.51P	S-1979	25.57	S- 508	23⅛
28*	27.40	S- 896	27.53	S-1035	25⅛
30*	29.35	S-1143	29.49	S-1982	27
32*	31.38P	S-1983	31.46	S- 494	29
34*	33.25	S-1984	33.41	S- 505	30⅞
36*	35.28P	S- 979	35.37	S-1985	32⅞
38*	37.15	S-1076	37.33	S-1986	34¾
40*	39.10	S-1987	39.29	S- 527	36¾
42*	41.05	S-1988			38⅝
44*	43.00	S-1126			40⅝
46*	44.95	S-1127			42⅝
49*	47.88	S-1111	48.11	S-1990	45½
55*	53.86P	S- 475	53.86P	S-475	51 7/16
58*	56.66	S- 935			54¼
No. 112					
6*▲	8.06	S-2815	8.10	S-2816	4½
7*▲	9.29	S- 522	9.33	S- 875	5⅞
8*▲	10.53	S- 528	10.58	S- 553	7
9*▲	11.78	S-1120	11.84	S-2817	8½
10*▲	13.04	S-2818	13.11	S-2819	9⅞
11*▲	14.30	S- 965	14.38	S-2820	11¼
12*▲	15.57	S- 305	15.65	S-2821	12⅜
13*▲	16.84	S- 672	16.92	S- 639	13⅞
14*▲	18.11	S-2822	18.20	S-2823	15⅛
15*▲	19.38	S-2824	19.48	S-2825	16½
16*	20.71P	S-2826	20.71P	S 2826	17¾
17*	21.93	S- 853	22.04	S-2827	19
18*	23.21	S-2828	23.32	S-2829	20¼
19*	24.48	S-1055	24.60	S-2830	21⅝
20*	25.76	S-2831	25.89	S- 852	22⅞
22*	28.32	S-2832			25½
24*	30.87	S- 637	31.03	S-2835	28
26*	33.43	S-2836			30⅝
28*	35.99	S-2837	36.17	S-2838	33⅛
31*	39.83	S- 640	40.03	S-2839	37
33*	42.40	S-2840			39⅝
37*	47.52	S- 967	47.76	S-2841	44⅝
40*	51.49P	S- 105	51.49P	S- 105	48⅝
46*	59.06	S- 503	59.35	S-2842	56¼
No. 116					
7*	13.81	S-2843	13.85	S-2844	10
10*	19.38	S-2845	19.45	S-2846	18
12*	23.14	S-2847	23.22	S-2848	19¾
13*			25.11	S-2849	21¾
14*	26.92	S-2850	27.01	S-2851	23½
15*	28.81	S-2852	28.91	S-2853	25½
18*	34.50	S-2854			31⅜
21*	40.19	S-2855	40.32	S-2856	37
28*	53.50	S-2857			50¼
50*	95.40	S-2858			92½

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
No. 120 See No. SS-40					
No. SS-124 (Same as No. 124 Det.)					
7*▲	9.37	S-2057			6
8*▲	10.62	S-2058	10.67	S-2059	7⅜
9*▲	11.88	S-2060	11.94	S-2061	8½
10*▲	13.15	S- 972	13.22	S-2062	10
11*▲	14.42	S-2063	14.50	S-2064	11¼
12*▲	15.70	S- 910	15.78	S-2065	12½
13*	16.98	S-2066	17.07	S-2067	13¾
14*	18.26	S-2068	18.35	S-2069	15
15*	19.55	S-2070	19.64	S-2071	16¼
16*	20.83	S-2072	20.93	S-2073	17½
17*	22.12	S- 317	22.23	S-2074	18⅞
18*	23.40	S-2075	23.52	S-2076	20⅛
19*	24.69	S-1024	24.81	S-2077	21¼
20*	25.98	S- 772	26.11	S-2078	22½
22*	28.56	S-2079	28.70	S-2080	25¼
24*	31.13	S-2082	31.29	S-2083	27⅞
25*	32.43	S-1023			29¼
28*	36.30	S-1022	36.48	S-2084	33
30*	38.88	S-2085	39.07	S-2086	35⅜
32*	41.47	S-2087	41.68	S-2088	38¼
34*	44.05	S- 529			40¾
37*	47.92	S- 936			44½
38*	49.22	S 884			46
46*	59.55	S-2089			56¼
51*	66.02	S-2090			62¾
No. 149					
6*▲	7.98	S-2859	8.02	S-2860	4¾
7*▲	9.22P	S-2861	9.22P	S-2861	6¼
8*▲	10.45P	S- 968	10.45P	S- 968	7¾
9*▲	11.67	S 2862	11.72	S-2863	8¾
11*▲	14.16	S-2864	14.22	S-2865	11½
12*▲	15.45P	S-2866	15.45P	S-2866	13
16*	20.50P	S-2867	20.50P	S-2867	18
18*	23.99	S-2868			21½
Nos. 180, 276, 1095 and 1107					
5*▲	20.40	S-2869			13¼
6*▲	23.98	S-2870	24.02	S- 816	17
8*	31.36P	S- 943	31.36P	S- 943	24¾
9*	35.05	S- 372	35.12	S-1123	28½
10*	38.79	S- 895	38.87	S-2871	32¼
14*	53.88	S-2872			47¼
Nos. 182, 182½ and 1105					
4*▲	25.44	S-2873			14
5*	30.60	S-2874	30.64	S 2875	20
6*	35.98	S- 982	36.02	S- 920	27¼
7*	41.46	S-2876	41.51	S-2877	33¾
8*	47.01	S 941	47.07	S-2878	39
10*	58.25P	S-1110	58.25P	S-1110	50¼
No. 234 See No. 1114					
No. 276 See No. 180					
No. 301 (Same as No. 114 Det.)					
5*▲			5.59	S- 916	2¾
6*▲	6.53	S-2015	6.57	S-2016	3¾
7*▲	7.53	S-2017			4¾
8*▲	8.54	S-2018	8.58	S-2019	5¾
9*▲	9.55	S- 616	9.60	S-2020	6¾
10*▲	10.57	S-2021	10.63	S- 454	7¾
11*▲	11.59	S-2022	11.65	S-2023	8¾
12*▲	12.62	S-1086	12.69	S-2024	9¾
13*▲	13.65	S- 767	13.72	S-2025	10¾
14*	14.68	S-1015	14.76	S-2026	11⅞
15*	15.71	S- 481	15.79	S-2027	12⅞
16*	16.74	S- 790	16.83	S-2028	13⅞
17*	17.78	S- 489			15
18*	18.81	S- 311	18.91	S-2029	16
19*	19.85	S-1082	19.95	S-2030	17
20*	20.78P	S- 118	20.78P	S- 118	18 5/32
21*	21.92	S-2031	22.03	S-2032	19⅛
24*	25.02	S-2033	25.16	S-1098	22¼
26*	27.10	S- 388			24¼

▲ Plate Center Wheels; all others have arms.
* Indicates Wheels which can be furnished with Chilled Rims.
P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.

Cast Iron Sprockets for Steel Thimble Roller Chains.

Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
No. 301—Cont'd.					
30*	31.25	S- 498	31.41	S-2035	28½
32*	33.33	S-2036			30½
34*	35.41	S-1145	35.59	S-2037	32⅝
36*	37.48	S-2040	37.67	S-2041	34¼
38*	39.56	S- 648	39.77	S-2042	36¾
42*	43.72	S-1054	43.94	S-2043	41
46*	47.87	S-2044			45⅛
48*	49.94	S-1006			47⅛
57*	59.30	S- 917			56½
No. 433½ (Same as No. 78 Det.)					
5*▲	4.43	S-1908	4.45	S-1909	2½
6*▲	5.20	S- 411	5.23	S-1910	3¼
7*▲	6.00	S- 343	6.03	S-1911	4
8*▲	6.80	S- 632	6.83	S-1912	4 11/16
9*▲	7.61	S- 100	7.65	S- 101	5⅝
10*▲	8.42	S-1071	8.46	S-1913	6½
11*▲	9.26P	S-1028	9.26P	S-1028	7¼
12*▲	10.08P	S-1914	10.08P	S-1914	8
13*▲	10.90P	S-1915	10.93	S-1916	8⅞
14*	11.70	S- 798	11.75	S-1917	9¾
15*	12.52	S-1918	12.58	S-1919	10½
16*	13.34	S-1920	13.41	S-1921	11⅜
17*	14.16	S-1922	14.24	S-1923	12⅛
18*	14.99	S-1070	15.07	S-1924	13
19*	15.81	S- 885	15.89	S-1925	13 11/16
20*	16.64	S- 869	16.72	S- 362	14⅝
21*	17.46	S-1926	17.55	S-1927	15½
22*	18.29	S-1928	18.38	S-1929	16¼
24*	19.94	S- 393	20.04	S-1932	17 11/16
26*	21.59	S-1935	21.70	S- 661	19½
28*	23.30P	S-1937	23.30P	S-1937	21¼
30*	24.90	S- 932	25.02	S-1008	22⅞
32*	26.56	S- 399	26.69	S- 684	24½
34*	28.28P	S-1940	28.35	S-1941	26¼
36*	29.86	S- 604	30.01	S-1030	27⅞
38*	31.60P	S- 668	31.68	S-1943	29½
40*	33.17	S-1946	33.33	S-1947	31⅛
43*	35.66	S- 457	35.83	S- 683	33⅝
44*	36.48	S-1948	36.66	S- 858	34½
45*	37.31	S- 745	37.49	S-1949	35 5/16
46*	38.14	S-1950	38.33	S-1951	36⅛
49*	40.62	S- 407	40.82	S- 706	38⅝
50*	41.45	S- 352	41.65	S- 708	39½
57*	47.24	S- 605	47.48	S- 903	45¼
60*	49.72	S- 985			47¾
No. 575					
7*▲	11.64	S-2879			8¼
9*▲	14.76	S-2880			11¾
10*▲	16.37P	S-2881	16.37P	S-2881	13¼
13*▲	21.09	S-2882	21.19	S-2883	18¼
16*	25.94P	S-2884	25.94P	S-2884	23
22*	35.48	S-2885			32½
23*			37.25	S-2886	34¼
30*	48.30	S-2887			45⅜
36*	57.92	S-2888			55
Nos. 809 and 982					
5*▲	15.31P	S-1179	15.31P	S-1179	9¼
6*▲	17.98	S- 862	18.02	S- 863	12⅜
8*	23.49	S- 865	23.54	S- 866	18½
12*	34.77P	S-1137	34.77P	S-1137	30¼
No. 950					
8*▲	3.92P	S-2889	3.92P	S-2889	2 5/16
10*▲	4.85P	S- 755	4.85P	S- 755	3⅜
11*▲	5.32P	S- 740	5.32P	S- 740	3¾
12*▲	5.79P	S- 741	5.79P	S- 741	4¼
13*▲	6.27P	S- 743	6.27P	S- 743	4¾
14*▲	6.74P	S- 542	6.74P	S- 542	5¼
15*▲	7.21P	S- 742	7.21P	S- 742	5 11/16
21*▲	10.06P	S-2890	10.06P	S-2890	8 9/16
25*▲	11.97P	S-2891	11.97P	S-2891	10½
28*	13.30P	S-2892	13.30P	S-2892	11¾
30*	14.44P	S-2893	14.44P	S-2893	12 11/16
57*	27.28P	S-2894	27.28P	S-2894	25¾
No. 951 See No. 1126C					
No. 982 See No. 809					
Nos. 987, 1074, 1093 Solid Wheels					
6†	47.88	29280			38
8†	62.72P	29360	62.72P	29360	52

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
No. 987, 1074, 1093 Ren. Rim Wheels					
6†	47.875	61759 61760			27
8†	62.715P	61756 61757	62.715P	61756 61757	38
No. 1007					
6*▲	12.00P	S-2895	12.00P	S-2895	8
10*▲	19.42P	S-2896	19.42P	S-2896	15⅞
15*▲	28.86P	S- 849	28.86P	S- 849	25½
16*	30.75P	S- 121	30.75P	S- 121	27½
No. 1018 Solid Wheels					
6†	36.00P	29824	36.00P	29824	26½
8†	47.04P	29822	47.04P	29822	38
No. 1018 Renewable Rim Wheels					
6†▲	35.875	61913 61914			18
8†	47.037P	61915 61916	47.037P	61915 61916	29
No. 1072					
7†	69.15	S-1083			54
8†	78.29P	S-3250	78.39P	S-3250	65
No. 1074 See No. 987					
Nos. 1076 and 1076½ Renewable					
6	60.00P	61510 61479⊙	60.00P	61510 61479⊙	40¼
8	78.39P.	61511 61479⊙	78.39P	61511 61479⊙	58¼
No. 1086 Renewable					
6▲	48.00P	61478 61479⊙	48.00P	61478 61479⊙	28⅜
No. 1092					
6*	36.00P	S- 107	36.00P	S- 107	27
No. 1093 See No. 987					
No. 1094 (Same as No. 77 Det.)					
6*▲	4.58	S-1818	4.60	S-1819	2½
7*▲	5.28	S-1820	5.31	S-1821	3⅜
8*▲	5.99	S-1822	6.02	S-1823	4⅛
9*▲	6.70	S-1824	6.73	S-1825	4⅞
10*▲	7.42	S-1826	7.45	S-1827	5⅝
11*▲	8.13	S-1828	8.17	S-1829	6⅜
12*▲	8.85	S-1830	8.89	S-1831	7⅛
13*▲	9.58	S-1832	9.62	S-1833	7⅞
14*▲	10.30	S-1834	10.35	S-1835	8½
15*	11.02	S-1836	11.07	S-1837	9¼
16*	11.75	S-1838	11.80	S-1839	10
17*	12.47	S-1840	12.53	S-1841	10¾
18*	13.20	S-1842	13.26	S-1843	11½
19*	13.96P	S-1844	13.96P	S-1844	12⅜
20*	14.68P	S-1845	14.68P	S-1845	13
21*	15.41P	S-1846	15.41P	S-1846	13⅞
22*	16.14P	S-1847	16.14P	S-1847	14⅝
24*	17.60P	S-1849	17.60P	S-1849	16
26*	19.06P	S-1850	19.06P	S-1850	17½
28*	20.52P	S-1851	20.52P	S-1851	19
30*	21.97P	S-1852	21.97P	S-1852	20½
32*	23.44P	S-1853	23.44P	S-1853	22
34*	24.90P	S-1854	24.90P	S-1854	23¼
36*	26.35P	S-1855	26.35P	S-1855	24⅞
38*	27.82P	S-1856	27.82P	S-1856	26⅜
40*	29.28P	S-1857	29.28P	S-1857	27¾
42*	30.74P	S-1858	30.74P	S-1858	29¼
44*	32.20P	S-1859	32.20P	S-1859	30⅝
46*	33.66P	S-1860	33.66P	S-1860	32⅛
48*	35.12P	S-1861	35.12P	S-1861	33⅝
50*	36.58P	S-1953	36.58P	S-1953	35
No. 1095 See No. 180					
No. 1105 See No. 182					
No. 1107 See No. 180					
Nos. 1114 and 234					
5*▲	5.95	S-2897	5.95	S-2898	3
6*▲	7.00	S-2899	7.03	S-2900	4¼
7*▲	8.06	S-2901	8.10	S-2902	5⅜

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
Nos. 1114 and 234—Cont'd.					
8*▲	9.14	S- 679	9.18	S-2904	6⅝
9*▲	10.23	S-2903	10.28	S-2905	7¼
10*▲	11.35P	S- 320	11.38	S- 877	9
11*▲	12.42	S-2906	12.48	S-2907	10⅛
12*▲	13.52	S-2908	13.58	S- 366	11¼
13*▲	14.62	S-2909	14.69	S-2910	12⅜
14*▲	15.72	S-2911	15.80	S-2912	13½
15*	16.83	S-2913	16.91	S-2914	14½
16*	17.93	S- 848	18.02	S- 340	15⅝
17*	19.04	S-2915	19.13	S-2916	16¾
18*	20.15	S-2917	20.24	S-2918	17⅞
19*	21.26	S- 449	21.36	S-2919	19
20*	22.37	S-2920	22.47	S-1092	20⅛
21*	23.47	S-2921	23.59	S- 630	21¼
22*	24.58	S-2922			22⅜
24*	26.80	S- 461			24⅝
25*	27.92	S-1068	28.05	S-2923	25¾
27*	30.14	S- 984	30.28	S-2924	28
29*	32.36	S-2925	32.52	S-2926	30¼
32*	35.79P	S- 525	35.87	S-2927	33⅝
33*			36.98	S-2928	34¾
35*	39.03	S-2929			36⅞
36*	40.14	S- 657	40.33	S-2930	38
38*	42.37	S- 927	42.57	S-2931	40¼
43*	47.94	S-1141	48.16	S-2932	45¾
50*			55.99	S-2933	53½
56*	62.40	S- 450			60¼
No. 1126 (Same as No. 126 MR)					
5*▲	10.19	S-2731			6
6*▲	11.98	S- 327	12.02	S- 325	8¼
7*▲	13.81	S- 452	13.85	S-2732	10¼
9*▲	17.52	S- 453	17.57	S- 451	14¼
10*	19.42P	S-2733	19.45	S-2734	16
12*	23.18P	S- 455	23.22	S-2735	20
13*	25.04	S-2736	25.10	S-2737	21¾
14*	26.92	S-2738	27.01	S- 829	23⅞
15*	28.82	S- 667	28.90	S-2739	25¾
18*	34.50	S- 682	34.60	S-2740	31¼
19*	36.40	S-2741	36.51	S-2742	33¼
22*	42.10	S-2743			39
25*	47.80	S-2744	47.95	S-2745	44½
No. 1126C and No. 951 Same as No. 126 C. M. R.					
6*▲	12.00P	S- 928	12.00P	S- 928	8¾
7*▲	12.81	S- 370			9½
8*▲	15.68P	S- 652	15.68P	S- 652	12¼
9*▲	17.54P	S- 876	17.57	S-2747	14¼
10*	19.39	S- 874	19.45	S-2748	16
11*	21.26	S-2749			18
12*	23.22	S- 558	23.18P	S- 872	20
13*	25.04	S-2750	25.10	S-2751	21¾
14*	26.92	S-1047	27.01	S-1142	23⅜
15*	28.82	S-2752	28.90	S-2753	25½
16*	30.75P	S-2754	30.75P	S-2754	27⅜
18*	34.50	S-2755	34.60	S-2756	31¼
19*	36.40	S-2757	36.40	S-2757	33⅛
22*	42.10	S- 995			38¾
25*	47.80	S- 103	47.94	S-1048	44½
31*	59.22	S-2758	59.40	S-2759	56

CAST STEEL SPROCKETS

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
No. 17					
6▲	5.11	426	5.13	725	2⅞
7▲	5.88	620	5.92	722	3¾
8▲	6.67	427			4⅝
9▲	7.46	596	7.50	792	5½
10	8.26	862	8.31	718	6¼
11	9.06	945	9.11	357	7
12	9.87	688	9.92	687	7⅞
13	10.70P	60837	10.70P	60837	8⅝
14	11.47	603	11.53	723	9⅝
15	12.28	944	12.35	621	10⅜
16	13.09	726	13.16	567	11 3/16
17	13.89	874			12
18	14.70	875	14.78	923	12⅞
20	16.32	793	16.41	322	14½
22	17.94	566	18.04	578	16
24	19.56	830	19.66	595	17¾
25	20.37	749			18½
27	21.99	876	22.11	877	20 3/16
28	22.81	767	22.93	707	21

▲ Plate Center Wheels; all others have arms.
* Indicates Wheels which can be furnished with Chilled Rims.
P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.
⊙Cast Steel Teeth.
†Indicates Wheels furnished with Chilled Rims only.

Steel Thimble Roller Chains

Cast Steel Sprockets for Steel Thimble Roller Chains.

Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

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No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
30	24.43	351	24.55	889	22⅝
33	27.00	S-2784	27.00	27243	25
36	29.29	904	29.45	766	27½
40	32.54	719			30 11/16
44			35.97	917	34
48	39.25	S-2790			38¼
No. 27					
6▲	5.95	588			3¼
7▲			6.88	218	4¼
8▲	7.77	653			5¼
9▲	8.69	326	8.73	529	6¼
10▲	9.64P	27142	9.64P	27142	7¼
11▲	10.55	903	10.60	831	8⅛
12▲	11.48	664	11.54	716	9⅛
15	14.30	324	14.37	325	12
16	15.31	S-2804	15.31	742	13
18	17.12	871			16⅞
19	18.06	765			17⅞
22	20.89	16433			18⅝
23	21.94	S-2807	21.94	764	19⅝
25	23.72	741	23.84	800	21½
27	25.61	27182			23¼
29	27.49	98			25¼
38	36.00	899			33¾
44	41.67	528			39⅜
45	42.61	361			40⅜
50	47.33	905			43¼
No. 27 Special (Same as No. 1 MR)					
6▲	5.94	4051			3⅞
8▲	7.77	4050			5⅞
10▲	9.62	921			7¾
11▲			10.61	4032	8 11/16
15▲			14.37	4033	12 7/16
20	19.05P	4034	19.05P	4034	17 3/16
31	29.54	S-2323	29.54	922	27½
Nos. SS-40 and 120 (Same as No. 103 Det.)					
6▲	6.14	474	6.16	713	3⅞
7▲	7.07	530			4¾
8▲	8.02	609	8.05	577	5¾
9▲			9.01	27342	6⅝
10▲	9.93	507	9.97	510	7⅝
11▲	10.94	S-1961			8⅝
12▲	11.85	656	11.91	612	9⅝
13▲	12.82	504	12.88	547	10½
14▲	13.85	S-1966	13.85	458	11½
15▲	14.79P	151	14.79P	151	12½
18	17.66	855	17.75	996	15⅜
19	18.64	669	18.73	890	16⅜
20	19.61	460			17¼
21	20.68	S-1973			18¼
22	21.61P	28628	21.61P	28628	19¼
24	23.62	S-1099	23.62	33	21¼
26	25.51P	28629	25.51P	28629	23⅛
28	27.40	57	27.53	573	25⅛
30	29.35	689			27
32	31.38P	29021	31.38P	29021	29
36	35.09	459	35.37	32	32⅞
38	37.24P	29255	37.33	867	34¾
41	40.18P	613	40.18P	613	37⅞
45	44.19	S-1989			41⅝
49	47.88	614	48.11	673	45½
No. 112					
6	8.06	338			4½
7	9.33	S- 875	9.33	642	5⅞
8▲	10.56P	367	10.56P	367	7
9▲	11.78	502			8½
10▲	13.04	516	13.11	457	9⅞
11▲	14.30	686	14.38	737	11¼
12▲	15.57	505	15.65	531	12⅜
14▲	18.11	810	18.20	908	15⅛
15	19.38	428	19.48	501	16½
17	22.04	S-2827			19
18	23.21	329	23.32	720	20¼
19	24.48	515			21⅝
20	25.83P	978	25.83P	978	22⅞
22	28.32	8			25½
23			29.74	796	26¾
24	30.87	672	31.03	671	28
26	33.43	797			30⅝
28	35.99	736	36.17	27276	33⅛
31	39.83	100			37

No. 112—Cont'd.

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
33	42.40	456			39⅝
37	47.52	981	47.76	735	44⅝
40	51.49P	28105	51.49P	28105	48½
46	59.06	500			56¼
No. 116					
7▲	13.85	S-2844	13.85	37	10
12	23.22	S-2848	23.22	13422	19¾
18			34.61	12915	31⅜
21	40.19	38			37
34	64.93	12916			61¾
42	80.17	199			77
No. 120 See No. SS-40					
No. SS-124 (Same as No. 124-Det.					
8▲	10.67	S 2059			7⅜
9▲	11.91P	643	11.91P	643	8½
11▲			14.50	513	11¼
12▲	15.78P	S-2065	15.78P	S-2065	12½
14	18.35	S 2069			15
17	22.12	61			18⅞
20	26.11	S-2078			22½
22	28.70	S-2080			25¼
28	36.48	S-2084			33
38	49.22	512			46
51	66.02	519			62¾
No. 149					
10▲	12.94P	60019	12.94P	60019	10¼
19	24.25	795			21¾
Nos. 180, 276, 1095 and 1107					
5	20.40	21	20.44	22	13¼
6	23.98	102	24.02	101	17
8	31.36P	974	31.36P	974	24¾
9			35.12	26152	28½
Nos. 182, 182½ and 1105					
6	35.98	910	36.02	911	27¼
8	47.01	960			39
No. 234 See No. 1114					
No. 276 See No. 180					
No. 301 Same as No. 114 Det.					
11	11.59	61629			8¾
12	12.62	61630			9¾
13▲	13.65	447			10¾
14	14.68	610	14.76	772	11⅞
16	16.74	477			13⅞
18▲	18.81	777			16
23	23.99	406			21⅛
35	36.63	S-2039			33⅝
36	37.67	S-2041			34¾
42		770			
48		27488		27488	
No. 433½ Same as No. 78 Det.					
6▲			5.23	522	3¼
7▲	6.00	4048	6.03	4045	4
8▲	6.83	S-1912			4 11/16
9▲	7.61	961			5⅝
10▲	8.42	611			6½
11▲	9.24	514	9.29	714	7¼
12▲	10.06	4041	10.11	4040	8
13▲	10.87	769			8⅞
14▲	11.75	S-1917	11.75	15940	9¾
15	12.52	592	12.58	548	10½
16	13.34	372			11⅜
17	14.16	404			12⅛
18	15.07	S-1924	15.07	794	13
20	16.64	670	16.72	591	14⅝
22	18.29	405	18.38	933	16¼
24	19.84	881			17 11/16
26	21.59	856			19½
28	23.25	927	23.30P	29108	21¼
29	24.07	370			22
30	24.90	580			22⅞
32	26.56	857			24½
34			28.35	930	26¼
36	30.01	S-1030			27⅞
38	31.52	858			29½
43	35.66	967	35.83	934	33⅝
45	37.31	912			35 3/16
49	40.62	968			38⅝
50			41.65	607	39½
57	47.24				45¼

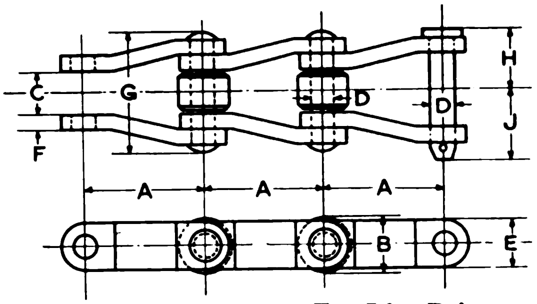
No. 575

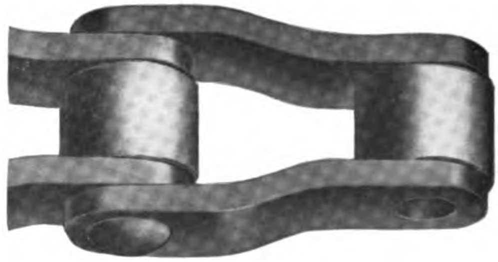
No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
13▲	21.09	623			18¾
15▲			24.39	841	21¾
30	48.30	840			45¾
Nos. 809 and 982					
6▲	18.02P	S- 863	18.02P	S- 863	12¾
No. 951 See No. 1126C					
Nos. 987, 1074 and 1093					
8	62.72P	29361	62.72P	29361	52
No. 1007					
10▲	19.42P	60915	19.42P	60915	15¾
12▲	23.18P	60914	23.18P	60914	19¾
15▲	28.86P	60216	28.86P	60216	25½
16▲	30.75P	60221	30.75P	60221	27¼
Nos. 1074 and 1093 See No. 987					
No. 1094 Same as No. 77 Det.					
8▲	6.02	S-1823	6.02	551	4¾
11▲	8.13	490	8.17	471	6¾
12▲	8.89	S-1831	8.90	18873	7¼
14▲			10.35	36	8¾
16	11.75	550			10
18	13.26	S-1843			11¾
19	13.92	473	13.99	472	12¾
22	16.18	S-1678			14¾
28	20.47	467	20.56	639	19
30	22.03	S- 539			20¾
33	24.11	466	24.22	640	22¾
38	27.88	S-1693			26¾
41	30.08	S-1695			28¾
No. 1095 See No. 180					
No. 1105 See No. 182					
No. 1106					
8	31.36P	62204	31.36P	62204	29¾
No. 1107 See No. 180					
Nos. 1114 and 234					
6▲	7.00	278	7.03	277	4¾
7▲			8.10	696	5¾
8▲	9.14	891	9.18	813	6¾
9▲	10.23	316	10.28	593	7¾
10▲	11.38	S- 877	11.38	709	9
11▲	12.42	906	12.48	346	10¾
12▲	13.52	703	13.58	475	11¾
13▲	14.62	822	14.69	660	12¾
14	15.72	12592			13¾
15			16.91	334	14¾
16	17.93	823	18.02	824	15¾
17	19.04	12593			16¾
18	20.15	15942	20.24	743	17¾
19			21.36	636	19
20	22.37	849	22.47	19	20¾
21	23.59	S- 630	23.59	907	21¾
22	24.58	821	24.70	916	22¾
24	26.80	915			24¾
25	27.92	347			25¾
27	30.14	893	30.28	825	28
29	32.36	545			30¾
32	35.70	348			33¾
36	40.14	594	40.33	763	38
38	42.37	586			40¾
43	47.94	708			45¾
50	55.72	66			53¾
56			62.70	970	60¾
No. 1126 Same as No. 126 MR					
6	11.98	527	12.02	526	8¾
7	13.81	605	13.85	606	10¾
10	19.45P	S-2734	19.45P	S-2734	16
12	23.15	717	23.22	654	20
13	25.10	S-2737			21¾
14▲			27.01	559	23¾
18			34.60	618	31¾
Nos. 1126C and 951 Same as No. 126C MR					
6▲	12.00P	27665	12.00P	27665	8¾
8			15.70	27666	12¾
9▲	17.52	13	17.54P	12	14¾
10	19.39	799	19.45	975	16
12▲	23.18P	61221	23.18P	61221	20
14	26.96P	105	26.96P	105	23¾
15	28.82	691			25¾
16▲	30.75P	29109	30.75P	29109	27¾
18	34.60	S-2756			31¾
19▲	36.45P	61222	36.45P	61222	33¾

▲ Plate Center Wheels. P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.

For Idlers, see bottom of page 503.

Steel Roller Chains





For List Prices, see Price List Bulletin
Dimensions in Inches

Chain No.	A Pitch Inches	Approx. Weight in Lbs Per Foot	‡ Working Strength at 150 F. P. M.	**Max. Speed in Feet per Min.	Works on Sprocket No.	B Diam. Roller	C Width Inside	D Diam. of Pin	Side Bars E Width	Side Bars F Thickness	G Overall Riveted Chain	Overall Coupled Chain H	Overall Coupled Chain J
152	1.84	3	560	800	152	13/16	⅝	⅜	¾	¼	1 13/16	1	1⅛

‡**Working Strength** in table is increased or decreased for speeds other than 150 feet per minute. See table page 429 and use but half of values thus obtained for service in gritty conditions.
Economical Speed is half of "Max" speed in table above. Max. Speed to be used in nongritty conditions only.
Used extensively as substitute for various malleable chains.

Sprocket Wheels for No. 152 Steel Roller Chain

Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

No. 152 Cast Iron

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲	3.68P	S-2934	3.69	S-2935	2⅛
7▲	4.24	S-2936	4.26	S-2937	2¾
8▲	4.80	S-2938	4.82	S-2939	3⅜
9▲	5.37	S-2940	5.39	S-2941	4
10▲	5.94	S-2942	5.97	S-2943	4⅝
11▲	6.51	S 2944			5¼
12▲	7.09	S-2945			5¾
13▲	7.67	S-2946	7.71	S-2947	6½
14▲	8.25	S-2948	8.29	S-2949	7
16	9.41	S-2950	9.46	S-2951	8⅛
17	9.99	S-2952			8½
18	10.57	S-2953	10.62	S 2954	9¼

No. 152 Cast Iron Cont'd

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
19	11.15	S-2955			9⅞
20▲	11.74	S-2956			10½
21	12.31	S-2957	12.38	S-2958	11 1/16
24	14.06	S-2959			12¾
26	15.22	S 2960			14
28	16.39	S-2961	16.48	S-2962	15⅜
34	19.89	S-2963	20.00	S-2964	18⅝
40	23.45P	S-2965	23.45P	S-2965	22¼
44	25.72	S-2966			24½
48	27.65	S-2967			26¾
49			28.79	S-2968	27⅜

No. 152 Cast Steel

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6▲	3.68P	61030	3.69	834	2⅛
9▲	5.38P	60141	5.38P	60141	4
12▲	7.09	833	7.13	6908	5¾
15▲	8.83	295			7½
18	10.57	248	10.62	6472	9¾
24	14.06	6078			12¾
28	16.39	6079			15⅜
34	20.00	S-2964			18⅝

▲Plate Center Wheels; all others have arms.

Flanged Idlers for Steel Thimble Roller Chains.

Single Flange

No. 17 STR

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
12⅛	1¼	29670
19	1½	29657

No. 27 Spec. STR

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
8 5/16	2	29664
12⅛	1½	29686
16¾	1 5/16	29669
20¼	1½	29634
24 3/16	1½	29636

No. 27 STR
Same as No. 1114 STR

No. 112 STR

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
10⅛	1	29671
24¼	1¼	29644
64	1½	60144

No. 116 STR
Same as No. 112 STR

No. 120 STR
Same as No. 1114 STR

No. 149 STR
Same as No. 1114 STR

No. 234 STR

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
10	1 1/16	8200
24¼	1¼	29644
64	1½	60144

No. 301 STR
Same as No. 1114 STR

No. 433½ STR

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
8 5/16	2	29664
12⅛	1¼	29670
16¾	1 5/16	29669
20¼	1½	29634
24	1½	29641
30	1⅝	29650

No. 575 STR

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
10⅛	1	29671
24¼	1¼	29644

No. 1114 STR

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
8⅛	⅞	29659
12⅛	1½	29686
15¼	1	29685
18⅛	1¼	29693
20	1	29643
24 3/16	1½	29636

Nos. 1126, 1126C STR
Same as No. 1114 STR

Double Flange ††

No. 17 STR

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
10⅛	13/16	29668
14⅜	⅞	60070
18	1⅛	29630
20	1⅛	29637

No. 27 STR

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
11	1½	29681
16⅛	1 9/16	29695
20 3/16	1⅝	60069

No. 27 Spec. STR

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
10⅛	13/16	29668
14⅜	⅞	60070

No. 112 STR

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
18⅛	¾	29632

No. 116 STR
Same as No. 112 STR

No. 120 STR
Same as No. 1114 STR

No. 149 STR
Same as No. 27 STR

No. 234 STR

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
13⅛	1¼	29684
18⅛	¾	29632

No. 301 STR
Same as No. 1114 STR

No. 433½ STR

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
10⅛	13/16	29668
14⅜	⅞	60070
18	1⅛	29630

No. 575 STR

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
12	⅞	29666

No. 1114 STR

Actual Face Diam. Inches	Depth† Flange Inches	Pattern No.
13⅛	1¼	29684
18⅛	1½	13210
21	1⅜	29653

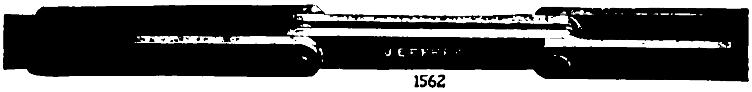
Nos. 1126, 1126C STR
Same as No. 1114 STR

†In use of Idlers note that the depth of Flange clears back of attachments used.
††Not furnished in Chilled Rims for Double Flanged Idlers.

Vulcan Chains

Low Priced Chains of Great Tensile Strength

Extensively used in many lines of industry and give excellent satisfaction where the speed is comparatively slow, service intermittent, or of a character which does not involve great wear on the pins.



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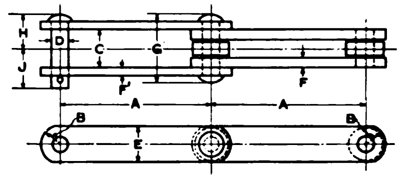
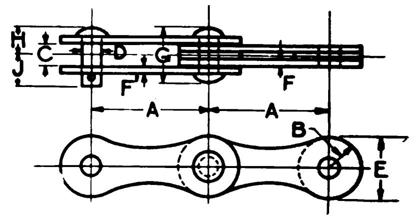
Style A



Style B



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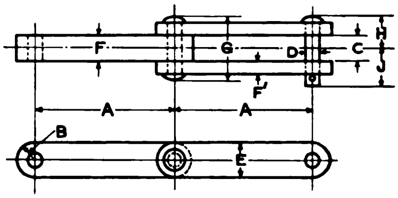
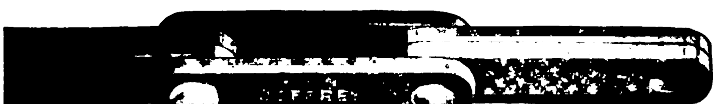
Style C





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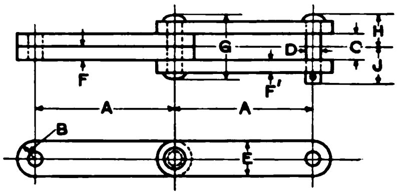
Style D



Dimensions of Vulcan Steel Chains

Chain No.	A Pitch In.	Approx. Weight per Foot Lbs.	Working Strength at 150‡ F. P. M.	Max. Speed in† F. P. M.	Works on Sprocket No.	B Radius of Side Bar	C Width Inside In.	D Diam. of Pin	Side Bar Width E	Side Bar Thickness F	Side Bar Thickness F1	G Overall Riveted	Overall Coupled H	Overall Coupled J
						Style A								
*** 627**	12.00	20.0	7200	150	627	1 5/8	2 7/8	1 3/8	3	7/8	5/8	5 1/8	2 9/16	2 5/8
***1068**	18.00	40.0	25000	150	1068	2 1/8	3	2	4	7/8	7/8	......	3 3/8	3 3/8
***1070**	18.00	31.5	15000	150	1070	1 7/8	3	1 3/4	3 1/2	5/8	5/8	......	2 27/32	2 27/32
						Style B								
211	6.00	3.22	1170	350	526	3/4	1	5/8	1 1/2	5/16	5/16	2 3/16	1 3/32	1 1/4
241	6.00	5.15	1400	350	526	3/4	1	5/8	1 1/2	3/8	3/8	2 5/16	1 5/32	1 1/4
						Style C								
526	6.00	5.12	1640	400	526	3/4	7/8	5/8	1 1/2	7/8	3/8	2 3/16	1 3/32	1 1/4
558	8.00	7.49	2250	400	558	7/8	1	3/4	1 3/4	1	3/8	2 3/8	1 3/16	1 5/16
						Style D								
119	8.00	12.8	4000	250	119	1	1 1/2	7/8	2	3/4	3/4	3 11/16	1 27/32	1 13/16
313	6.00	9.12	2625	300	313	1	1	7/8	2	1/2	1/2	2 11/16	1 11/32	1 7/16
327	6.00	10.89	4000	300	327	1	1 1/2	7/8	2	3/4	1/2	3 3/16	1 19/32	1 11/16
*623 1/2	12.00	13.8	5100	150	623	1 3/8	1 1/2	1 1/8	2 1/2	3/4	1/2	3 3/8	1 11/16	1 3/4

Bold Face Type Indicates Carried in Stock Sizes to cover all reasonable demands; all others subject to occasional delays.

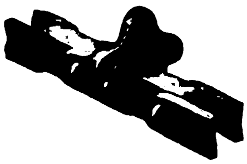
*Preferred Size for Heavy Haul-up Service.

‡Working Strengths in Table are increased or decreased for speeds other than 150 feet per minute. See table page 429.

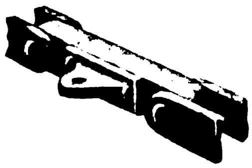
†Economical Speeds are not over half of Max. Speeds.

Vulcan Chains

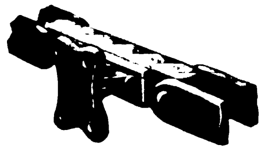
Attachments



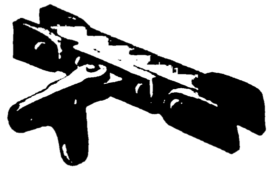
A



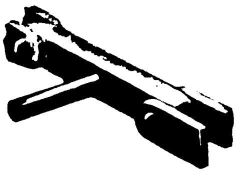
A-42



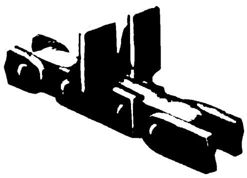
A-42 With A Bucket Wing



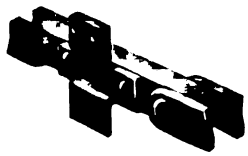
A-42 With M Flight Wing



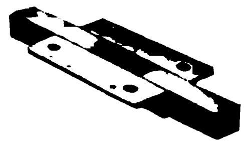
D-5



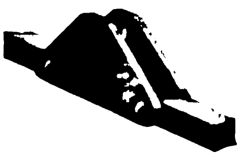
F-2



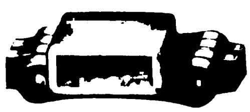
G-9



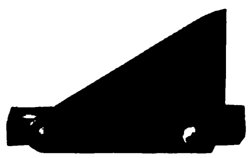
K-2



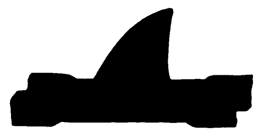
M-3



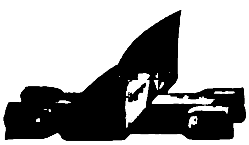
N



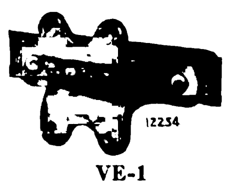
S



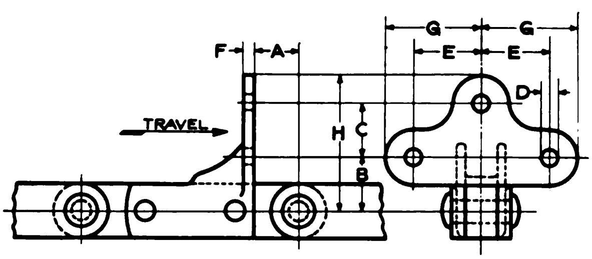
S-1½



S-3



VE-1



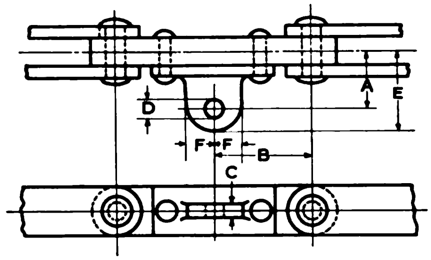
A Attachment
(Malleable)

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Made on Order Size	526	1¼	1½	1½	⅜	Round—Straight	1⅞	¼	2⅝	3 13/16

Vulcan Chains

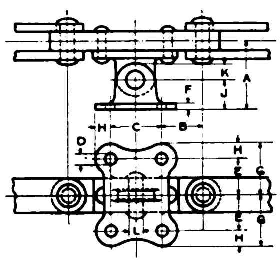
Attachments

A-42 Attachment
(Malleable)



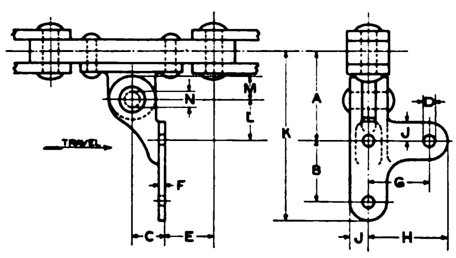
Class	Chain No.	A	B	C	D Diam. of Bolt or Pin	Kind of Holes	E	F
Made on Order Sizes	526	1¾	3	7/16	5/8	Round—Straight	2½	7/8
	558	1 13/16	4	7/16	5/8	" "	2 9/16	7/8

A-42 With A Bucket Wing Attachment
(Malleable)



Class	Chain No.	Name of Attachment	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J	K	L Dia. of Rivet
Made on Order Size	526	526A-42 with No. 25-A Bucket Wing	3	1 7/8	2¼	3/8	Round—Straight	1 19/32	¼	2¼	21/32	1¼	11/16	5/8

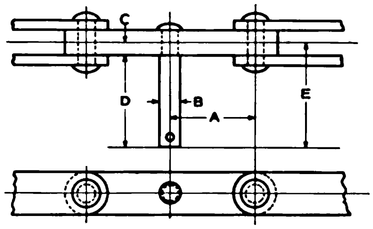
A-42 With M Flight Wing Attachment
(Malleable)



Can be furnished either Right or Left Hand
Right Hand shown

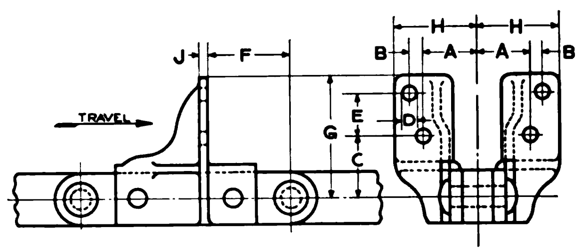
Class	Chain No.	Name of Attachment	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J	K	L	M	N
Made on Order Sizes	526	526 A-42 with No. 2-M	3¼	2¼	1¼	3/8	Round—Straight	1¾	¼	2¼	2 15/16	11/16	6 3/16	1½	7/8	5/8
	558	526 A-42 with No. 2-M	3 5/16	2¼	1¼	3/8	" "	2¾	¼	2¼	2 15/16	11/16	6¼	1½	7/8	5/8

Attachments



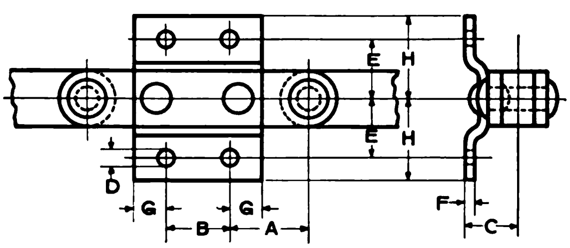
D-5 Attachment
(Steel)

Class	Chain No.	A	B	C	D	E
Made on Order Sizes	526 558	3 4	To Suit			



F-2 Attachment
(Malleable)

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J
Made on Order Sizes	526 558	1 9/16 1 5/8	3/8 3/8	1 3/4 1 7/8	3/8 3/8	Round—Straight " "	1 1/4 1 1/4	2 3/8 3 3/8	3 1/2 3 5/8	2 3/8 2 7/16	1/4 1/4



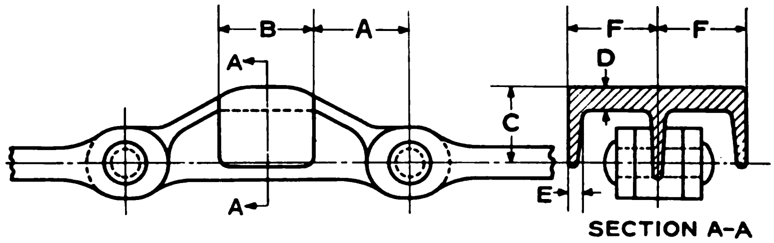
G-9 Attachment
(Steel)

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Made on Order Size	526	2 1/8	1 3/4	1 3/8	3/8	Round—Straight	1 5/8	1/4	7/8	2 1/4

Vulcan Chains

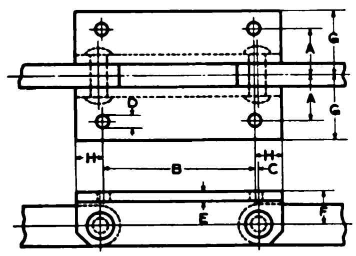
Attachments

H-40 Attachment
(Malleable)



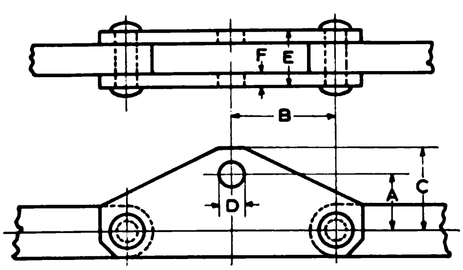
Class	Chain No.	A	B	C	D	E	F
Made on Order Size	211 241	2	2	1⅝	½	5/16	1⅞

K-2 Attachment
(Angle Iron)



Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Made on Order Sizes	526	1¾	3½	1¼	⅜	Round—Straight	⅜	1¼	2 7/16	2⅛
	558	1⅝	6	1	½	" "	⅜	1⅝	2½	1 11/16

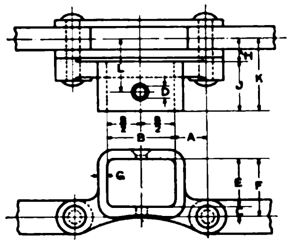
M-3 Attachment
(Steel)



Class	No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F
Made on Order Size	526	1⅝	3	2⅜	¾	Round—Straight	1⅝	⅜

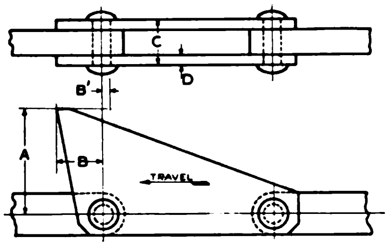
Vulcan Chains

Attachments



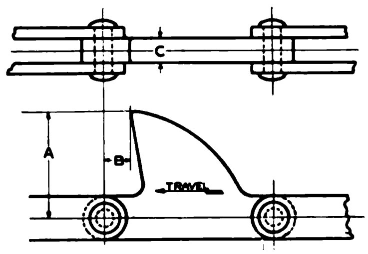
N Attachment
(Cast Iron)

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J	K	L	Pattern No.
Made on Order Size	526	1 15/32	3 1/16	½	¼	Round—Countersunk	2 1/16	2 9/16	7/16	15/16	2¼	3 3/16	2 5/16	4386



S Attachment
(Steel)

Class	Chain No.	A	B	C	D
Made on Order Sizes	119 526	4 3¾	1 1/16 1⅝	3 1⅝	¾ ⅜



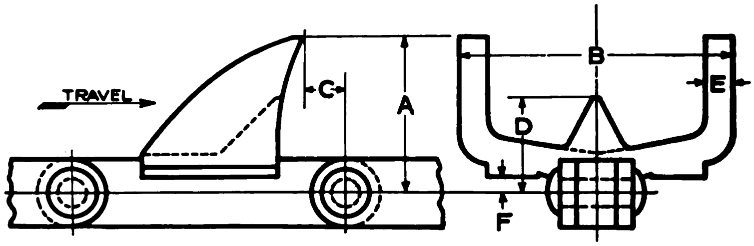
S-1½ Attachment
(Cast Steel)

Class	Chain No.	A	B	C	Pattern No.
Made on Order Size	119	5	1½	1½	16659

Vulcan Chains

Attachments

S-3 Attachment

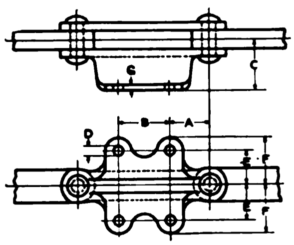


Class	Chain No.	A	B	C	D	E	F	Pattern No.
Made on Order Sizes	119	5	10	1¼	2⅝	¾	7/16	3293
	119	5	10	1¼	2⅝	¾	7/16	3309*
	119	4½	12	1¼	2⅝	¾	⅜	20624
	313	4½	8	½	2⅝	¾	7/16	8307

*All are made of Cast Steel with this one exception it being made in Malleable Iron.

VE-1 Attachment

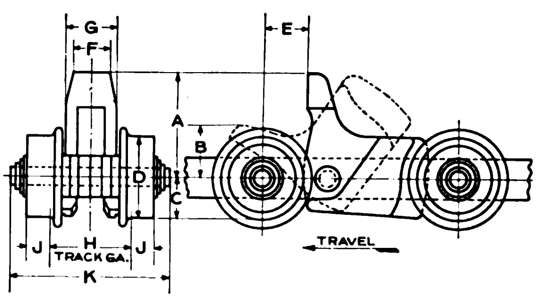
(Steel)



Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G
Made on Order Sizes	526	1 27/32	2 5/16	2⅜	⅜	Round—Straight	1⅝	2 3/16	⅜
	558	2½	3	2½	½	" "	1⅞	2 3/16	⅜

H-36 Gravity Tilting Spur

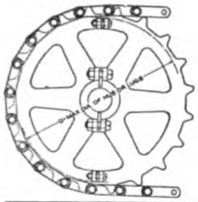
(Cast Steel)



Class	Chain No.	A	B	C	D	E	F	G	H	J	K
Made on Order Sizes	623½	6⅜	3¼	2½	5	2⅞	2¼	3 3/16	5	1 11/16	9¾
	627	7	4 7/16	2½	5	3 1/16	2	4⅜	6	1 11/16	10⅝
	1068	8	5½	3½	7	4⅞	2½	5	7¾	2	13⅜
	1070	7	4⅝	3	6	3¾	1¾	4 11/16	6⅝	1¾	11½

By reason of their simple and all steel construction many sizes of the Vulcan types of chains are well fitted to withstand the shocks and rough usage incident to heavy car haul service.

Vulcan Chains



Sprocket Wheels for Vulcan Chains

Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

Cast Iron

No. 119

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
4▲*	20.87	S-2969	20.94	S-1105	16½
5*	25.89P	S-2970	25.93	S-2971	21¾
6*	30.87	S-1094	30.95	S-2972	26¾
7*	35.90	S-1103	36.00	S-2973	31¾
12*	61.29P	S-2974	61.29P	S-2974	57

Nos. 211 and 241 (See No. 526)

No. 313

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5▲*	19.38	S-2975			15¾
6*	23.14	S- 840			19½
7*	26.96P	S-2976	26.96P	S-2976	23½
8*	30.75P	S- 673	30.75P	S- 673	27¼
9*	34.55P	S 2977	34.55P	S-2977	31
10*	38.28	S-2978	38.43	S-2979	34¾

No. 327

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
4▲*	15.65	S-2980			11½
5*	19.38	S- 569	19.45	S- 568	15¾
6*	23.14	S-2981	23.23	S-2982	19½
8*	30.69	S-2983	30.81	S-2984	27

Nos. 526, 211 and 241

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
4*	15.68P	S-3202	15.68P	S-3202	12½
5*	19.39	S- 879	19.44	S-3195	16¼
6*	23.15	S-1002	23.21	S-1058	20
7*	26.93	S- 806	27.00	S- 602	23¾
8*	30.71	S-1056	30.80	S-2986	27¾
9*	34.50	S-2987	34.60	S-2988	31½
10*	38.30	S-2989	38.41	S- 905	35¼
11*	42.10	S-2990	42.22	S-2991	39⅛
12*	45.90	S-2992			42⅞
14*	53.52	S-2993	53.66	S-2994	50½
24*	91.61	S-2995			88½

No. 558

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
4▲*	20.91P	S-2996	20.91P	S-2996	16¼
5*	25.86	S- 971	25.92	S-2997	21¾
6*	30.87	S-2998	30.95	S-2999	26½
7*	35.91	S- 914	36.00	S-3000	32
8*	40.96	S-3001	41.06	S- 548	36
9*	46.07P	S-3002	46.07P	S-3002	42
11*	56.15	S-3003			52

No. 623½

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
4▲*	31.36P	S-3004	31.36P	S-3004	25
5*	38.78	S-3005	38.88	S-1102	33

No. 627

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
4▲*	31.36P	S-3006	31.36P	S-3006	24
5*	38.83P	S- 931	38.83P	S- 931	32

No. 1068 Sprockets on application

No. 1070 Sprockets on application

Cast Steel

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
No. 119					
4▲	20.87	693	20.94	15694	16½
5	25.85	15693	25.93	54	21¾
6	30.87	56	30.95	55	27¾
Nos. 211, 241, 526					
5	19.44	S-3195			16¼
6	23.15	835	23.21	1836	20
No. 313					
6	23.14	27013			19½
N o. 327					
5	19.45	S- 568			15¾
No. 558					
7	35.91	920	36.00	127	32
No. 623½					
5			38.88	7	33
No. 627					
5▲			38.89	568	32

▲ Plate Center Wheels.
* Indicates Wheels which can be furnished with Chilled Rims.
P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.

Flanged Idlers for Jeffrey "Vulcan" Chains

Furnished in Cast Iron, Chilled Rim and Cast Steel

Single Flanged Idlers—Prices on Application

No. 119

Actual Face Diam. Inch	Depth† Flange Inches	Pattern No.
18⅛	1¼	29693
24¼	1¼	29644
64	1½	60144

Nos. 313, 558

Actual Face Diam. Inch	Depth† Flange Inches	Pattern No.
12⅛	1½	29686
16¾	1 5/16	29669
20¼	1½	29634
24	1½	29641

No. 327

Actual Face Diam. Inch	Depth† Flange Inches	Pattern No.
10	1 1/16	8200
31⅜	2½	29652

Nos. 211, 241 and 526

Actual Face Diam. Inch	Depth† Flange Inches	Pattern No.
12⅛	1¼	29670
19	1½	29657
20	1	29643
37½	¾	29645

No. 558 Same as No. 313

Double Flanged Idlers‡—Prices on Application

No. 119

12⅛	1½	3916
18⅛	1½	13210
22⅛	1½	29627

Nos. 313, 558

10⅛	13/16	29668
12⅛	1¼	29658

No. 327

12⅛	1½	3916
18⅛	¾	3474
21	1⅜	29653

Nos. 211, 241 and 526

10⅛	13/16	29668
12¼	13/16	29688
16¼	⅞	29689
20	1⅛	29637

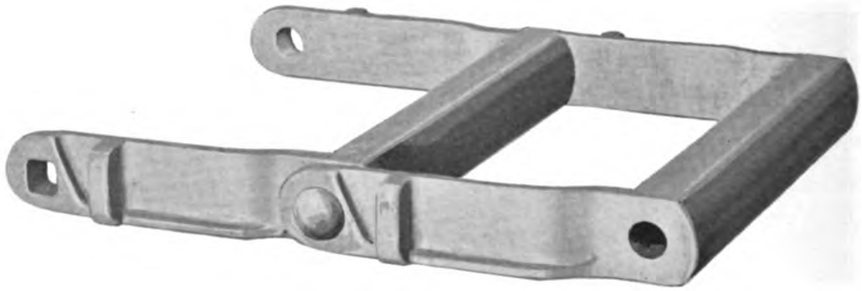
No. 558 Same as No. 313

No. 627

16⅛	1 9/16	29633
18¼	1 9/16	29626
27¾	1⅝	29638

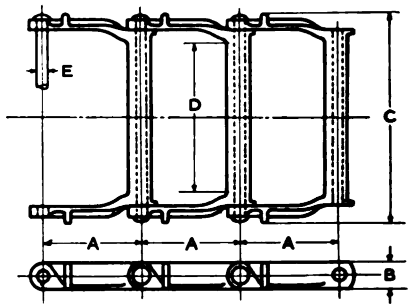
†In use of Idlers note that depth of flange clears back of attachment used.
‡Not furnished in Chilled Rim for Double Flanged Idlers.

Reliance Malleable Drag Chain



RELIANCE Drag Chain is simply an adaptation of the Reliance type of chain wherein an increase of width enables the chain to do duty as a scraper or conveying element.

The long wearing surfaces through the chain for its pins make it ideally fitted to conveyors for the handling of ashes and other loose gritty materials.

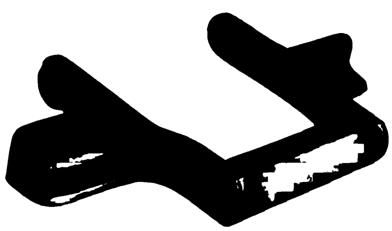


For List Prices—See Price List Bulletin

Chain No.	A Pitch Inches	Approx. Weight per Foot	‡Working Strength at 150 F. P. M.	† Max. Speed	Works on Sprocket No.	B Width of Side Bar	C Overall	D Max. Width of Sprocket	E Dia. of Pin
97	5.00	6.5	3300	200	97	1⅜	6½	3½	$\frac{9}{16}$
98	5.00	8.25	4200	200	98	1½	7⅜	4¼	⅝
102	5.00	9.1	4200	200	102	1½	9⅞	6⅜	⅝
104	6.00	7.4	4200	200	104	1½	7½	4⅛	⅝
110	6.00	12.5	4200	200	110	1½	12¾	9	⅝
112	8.00	10.3	4200	200	112	1½	13	9	⅝
116	8.00	15.0	4200	200	116	1⅝	$16\frac{3}{16}$	13	⅝
120	6.00	18.3	5000	200	120	2	$12\frac{13}{16}$	8¾	¾
480	8.00	17.0	5000	200	480	2	16⅛	11⅛	¾
1156	6.00	13.5	5000	200	1156	$1\frac{9}{16}$	9¾	$6\frac{5}{16}$	¾

Those Chains in **Bold Face Type** are Carried in Stock Sizes and Attachments; all others are made on order only.
‡Working Strengths in table are increased or decreased for speeds other than 150 ft. per minute. See table page 429.
†Economical speeds in gritty materials not to exceed 100 feet per minute.

Attachments

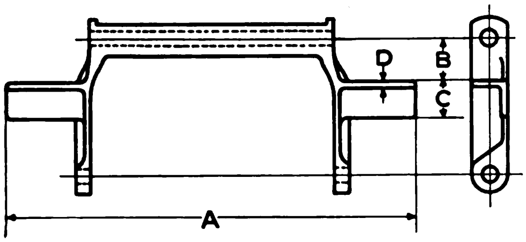


Wing Attachment

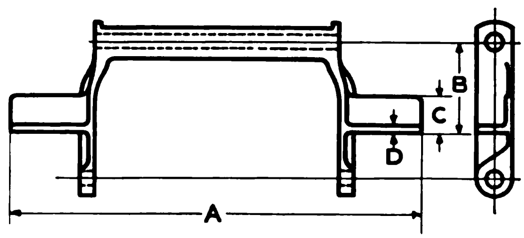
C-1 Attachment

Reliance Malleable Drag Chains

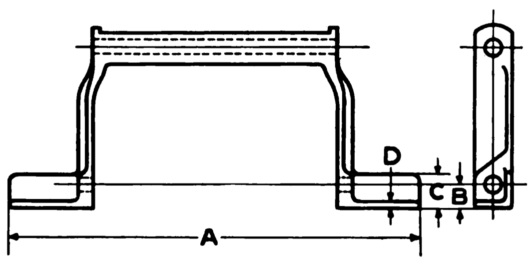
Attachments



No. 102 Wing Attachment



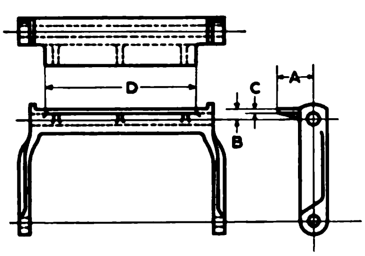
No. 104 Wing Attachment



No. 110 Wing Attachment

Wing Attachments

Class	Chain No.	A	B	C	D
Carried in Stock Sizes	102	14	1 13/16	1 7/16	3/16
	104	11 3/4	3 3/8	1 1/2	1/4
	110	17	7/8	1 5/16	1/4



C-1 Attachment

(Formerly D Flight)

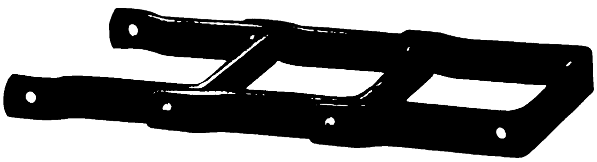
Class	Chain No.	A	B	C	D
Made on Order Size	110	2	1/2	3/16	9

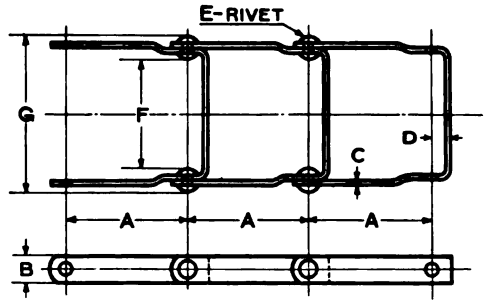
Steel Bar Drag Chains

Conveyors for Handling Saw Dust, Refuse, Shavings, Coal, Broken Stone, Etc.

NOTE—The relative service values of the two styles of Chain favor the Style C.

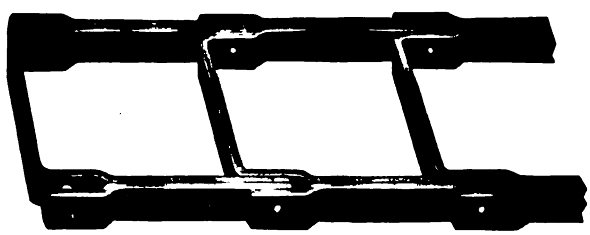
Style A

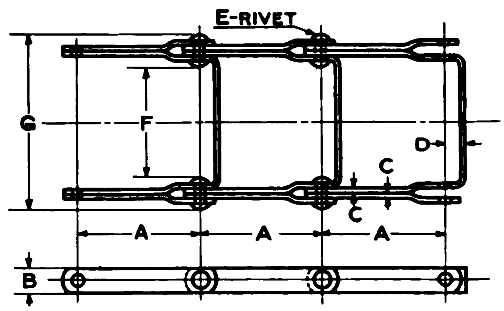




Style A is well fitted to comparatively short Conveyors for the handling of Saw Dust, Shavings, etc.

Style C



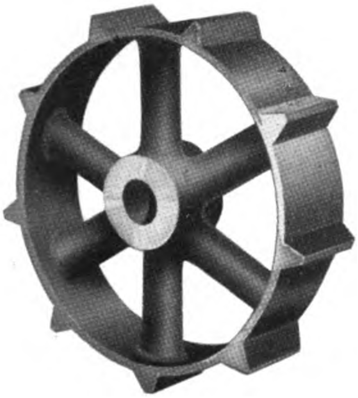


Style C is the stronger of the two general styles of Drag Chains and is well adapted to the handling of semi-gritty material such as Broken Stone, Screened Gravel, etc.

Chain No.	Style	A Pitch Inches	Approx. Weight per foot Lbs.	Working Strength at 150 F. P. M. ‡	Max. Speed F. P. M. †	Works on Sprocket No.	B Width of Side Bar	C Thickness of Side Bar	D	E Diam. of Rivet	F Width Inside	G Over-all
560	A	6	4.2	750	200	560	1 1/4	1/4	1	1/2	5 1/4	7 3/4
560	C	6	7.0	1500	200	560	1 1/4	1/4	1	1/2	5 1/4	8 3/4
562	A	10	9.5	1875	125	562	1 1/2	1/2	1 3/4	5/8	9 1/16	12 15/16
562	C	10	12.6	3750	125	562	1 1/2	1/2	1 3/4	5/8	9 1/16	14 15/16
564	A	8	7.0	1400	150	566	1 1/2	3/8	1 3/8	5/8	6 1/16	9 7/16
564	C	8	12.0	2800	150	566	1 1/2	3/8	1 3/8	5/8	6 1/16	10 15/16
566	A	8	4.3	750	175	566	1 1/2	1/4	1	1/2	6 1/4	8 3/4
566	C	8	7.5	1500	175	566	1 1/2	1/4	1	1/2	6 1/4	9 3/4
570	A	10	7.1	1400	125	570	1 1/2	3/8	1 3/8	5/8	9 5/16	12 11/16
570	C	10	11.9	2800	125	570	1 1/2	3/8	1 3/8	5/8	9 5/16	14 3/16
571	A	10	12.9	2260	125	571	2	1/2	1 3/4	3/4	7 15/16	12 1/16
571	C	10	21.3	4520	125	571	2	1/2	1 3/4	3/4	7 15/16	14 1/16
572	A	10	8.7	1690	125	572	1 3/4	3/8	1 3/8	3/4	9 3/16	12 13/16
572	C	10	14.3	3375	125	572	1 3/4	3/8	1 3/8	3/4	9 3/16	14 5/16
592	A	10	16.4	2815	125	592	2	5/8	2 1/8	3/4	9 3/16	13 13/16
592	C	10	26.6	5625	125	592	2	5/8	2 1/8	3/4	9 3/16	16 5/16
595	A	6	7.8	1400	200	595	1 1/2	3/8	1 3/8	5/8	5 1/16	8 7/16
595	C	6	12.9	2800	200	595	1 1/2	3/8	1 3/8	5/8	5 1/16	9 15/16

‡Working strengths in table are increased or decreased for speeds other than 150 feet per minute; see table page 429.
†Economical speeds are not over 100 feet per minute.

Drag Chains



Extra Heavy Plain Sprocket for Riveted Sawdust Chains. The Standard Wheel for both head and foot shafts of a Drag Conveyor.

Sprocket Wheels

for Steel Bar and Malleable Reliance Types

Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

Extra Heavy Sprocket for Delivery End of Conveyors with 3¼" Extension on each side.

For List Price—See Price List Bulletin

Cast Iron for Steel Bar Drag Chains

No. of Teeth	Driven Pitch Diam. In.	Driven Pattern No.	Driver Pitch Diam. In.	Driver Pattern No.	D Max. Diam. of Hub or Rims In.
No. 560					
6			12.01	S-3016	8¼
9			17.52	S-3017	14
10	19.39	S-3018	19.44	S-3019	16
12	23.16	S-3020	23.21	S-3021	20
No. 562					
5	16.96	S-3022			11
9	29.24P	S-3023	29.24P	S-3023	24½
Nos. 564 and 566					
5			13.62	S-3024	8¾
6			16.01	S-3025	11½
8	20.89	S-3026	20.92	S-3027	17¾
9	23.37	S-3028	23.41	S-3029	19¾
No. 570					
5	17.01P	S-3030	17.01P	S-3030	11½
7	23.03	S-3031	23.07	S-3032	18¼
9			29.26	S-3033	25
11	35.46	S-3034	35.52	S-3035	31¼
No. 571					
7	23.03	S-3036	23.07	S-3037	17¾
No. 572					
5			17.03	S-3038	11¼
6	19.98	S-3039	20.02	S-3040	14½
7	23.03	S-3041			18
9	29.24P	S-3042	29.24P	S-3042	24¾
No. 592					
5	16.96	S-3022	17.03	S-3038	11
7	23.03	S-3031	23.07	S-3032	18¼
8	26.13P	S-3043	26.13P	S-3043	21
No. 595					
6			12.01	S-3016	8¼
8			15.65	S-3044	12¼

No. of Teeth	Driven Pitch Diam. In.	Driven Pattern No.	Driver Pitch Diam. In.	Driver Pattern No.	D Max. Diam. of Hub or Rims In.
No. 595—Cont'd					
9			17.52	S-3017	14
10	19.39	S-3018	19.44	S-3019	16
Cast Steel Sprockets for Steel Drag Chains					
Nos. 560 and 595					
6▲			12.02	650	8

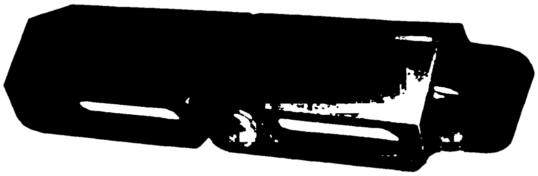
Cast Iron Sprockets for Reliance Riveted Drag Chains

No. of Teeth	Driven Pitch Diam. In.	Driven Pattern No.	Driver Pitch Diam. In.	Driver Pattern No.	D Max. Diam. of Hub or Rims In.
Nos. 97 and 98 Sprockets on application					
No. 102					
7	11.60P	S-3007	11.60P	S-3007	8½
8	13.15P	S- 701	13.15P	S- 701	10⅛
10	16.25	S- 680			13⅜
12			19.47	S-3008	16⅝
13	21.02P	S- 434	21.02P	S- 434	18⅛
No. 104					
6▲	12.04	S- 448			8¼
7	13.89P	S-3009	13.89P	S-3009	10½
8	15.75P	S-3010	15.75P	S-3010	12⅜
9	17.60	S- 496			14¼
11	21.36	S- 520			18
13	25.18P	S- 313	25.18P	S- 313	22
No. 110					
4▲	8.58P	S-3011	8.58P	S-3011	4
6▲	12.14P	S-3012	12.14P	S-3012	8¼
8	15.84	S- 473			11¼
9	17.72	S- 536			14⅝
11	21.52	S-3013	21.58	S-3014	18¼
No. 112					
7	18.60P	S- 125	18.60P	S- 125	14¼
8	21.09P	S-3015	21.09P	S-3015	17
Nos. 116, 120 and 480 Sprockets on application					
No. 1156					
9	17.54P	S- 867	17.54P	S- 867	16

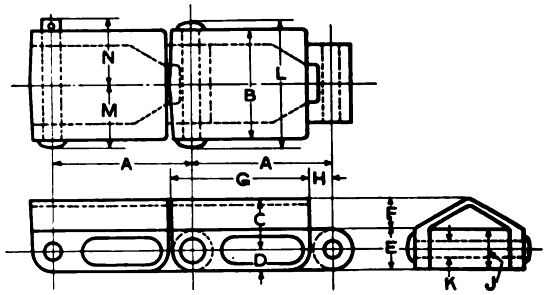
▲ Plate Center Wheels; all others have arms.

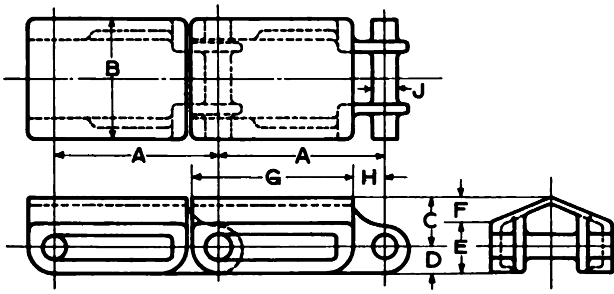
P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.

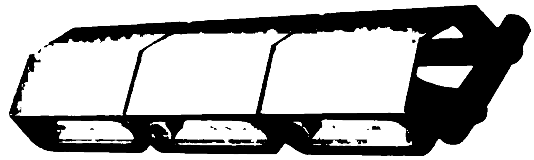
Transfer Chains—Detachable and Reliance



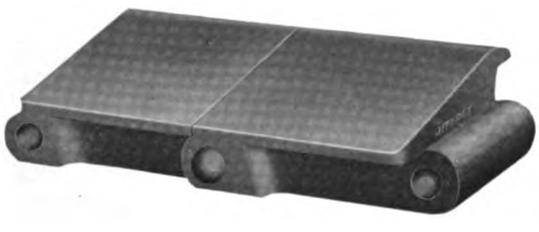
"Reliance" Transfer Chain—Type 1



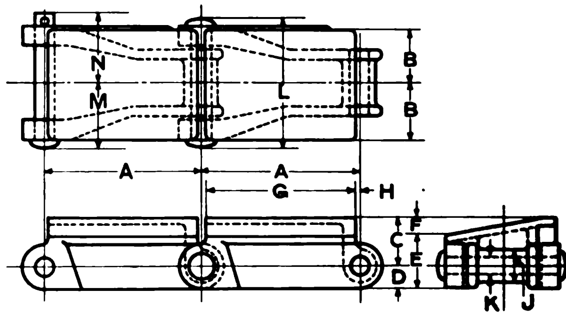




"Detachable" Transfer Chain—Type 2



"Reliance" Transfer Chain—Type 3



For List Price—See Price List Bulletin

Chain No.	Type	A Pitch Inches	Approx. Weight per foot Lbs.	‡ Working Strength at 150 F. P. M.	Max. Speed F. P. M.	Works on Sprocket No.	B	C	D	E	F	G	H	J	Dia. of Pin K	Over-all L	M	N
130	**1**	**4**	**7.25**	**2300**	**200**	**130**	**2 13/16**	**1 1/8**	**9/16**	**1 1/16**	**5/8**	**3 7/8**	**3/4**	**1**	**1/2**	**3 5/16**	**1 11/32**	**1 11/16**
131	**1**	**4**	**5.6**	**4200**	**200**	**131**	**3 7/16**	**1 5/8**	**5/8**	**1 9/16**	**11/16**	**3 7/8**	**15/16**	**1 1/4**	**5/8**	**4**	**2**	**2 1/16**
132	3	4	7.3	2500	200	132	1 1/2	1 7/16	9/16	1 3/16	13/16	3 7/8	7/8	1 1/8	1/2	3 7/16	1 11/32	1 7/8
500	2	4	3.5	1400	200	500	3	1 3/16	19/32	1 1/8	21/32	3 3/4	23/32	5/8	....	......	......	......

‡**Working Strengths** in table are increased or decreased for speeds other than 150 feet per minute. **See table** page 429 and use but half of working values thus obtained for service in abrasive materials.

Bold Face Type Indicates Carried in Stock Sizes to cover all reasonable demands; all others subject to occasional delays.

Cast Iron Sprockets for Transfer Chains

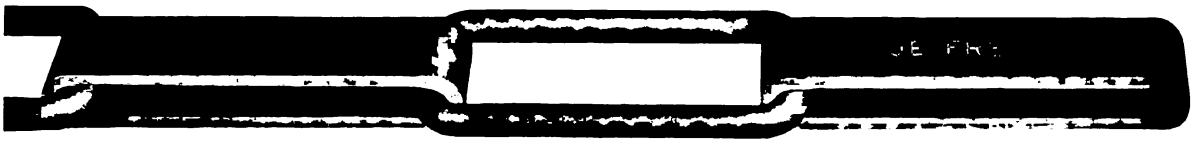
Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

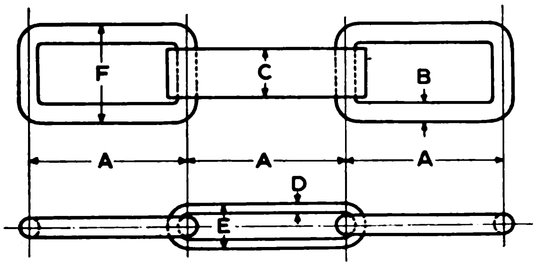
No. 130					
No. of Teeth	Driven Pitch Diam. In.	Driven Pattern No.	Driver Pitch Diam. In.	Driver Pattern No.	D Max. Diam. of Hub or Lugs In.
9▲	11.38	S-3045			9
10▲	12.60	S-1063			10¼
No. 131 Sprockets on Application					
No. 132					
9▲	11.68	S-3046			9

No. 500					
No. of Teeth	Driven Pitch Diam. In.	Driven Pattern No.	Driver Pitch Diam. In.	Driver Pattern No.	D Max. Diam. of Hub or Lugs In.
6	7.84	S-3047			5
8	10.24	S-3048			7½
10	12.68	S-3049			10
13	16.38	S-3050			13¾
14	17.61	S-3051			15¼

▲ Plate Center Wheels; all others have arms.

Flat and Round Steel Link Chains





Its Strength, Simplicity, Durability and Low Cost Commend it for General Elevating and Conveying Work

It is made of a good quality of steel. Has broad wearing surfaces, and repairs when needed can be made by any mechanic.

For List Price—See Price List Bulletin

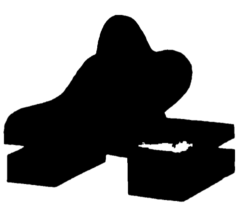
Chain No.	A Pitch Inches	Approx. Weight per Foot Lbs.	Working Strength at 150 feet per Min. Lbs.‡	Max. Speed ft. per Min.*	Dimensions—Inches				
					B	C	D	E	F
504½	4.0	2.40	2475	250	½	1¼	¼	1⅛	2½
506	6.0	2.10	2475	250	½	1¼	¼	1⅛	2½
516	6.0	3.45	3400	250	⅝	1⅜	⅜	1½	3
516½	6.0	4.66	5225	250	¾	1¾	⅜	1 11/16	3 9/16
518	8.0	4.49	5225	200	¾	1¾	⅜	1⅝	3 9/16
520	8.0	6.82	6900	200	⅞	2	½	2	4⅛
520½	8.0	9.00	9800	200	1	2½	½	2⅛	4⅞
521	10.0	8.40	9800	150	1	2½	½	2⅛	4⅞

‡Working Strengths in Tables are increased or decreased for speeds other than 150 ft. per minute. See Table, page 429. Use but half of working values thus obtained for service in abrasive materials.

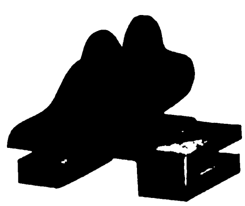
*Economical speeds about ½ of maximum speeds listed.

Bold Face Type Indicates Carried in Stock Sizes to cover all reasonable demands; all others subject to occasional delays.

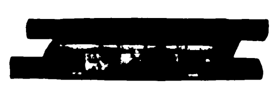
Attachments



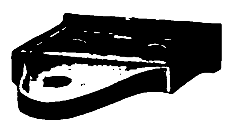
A



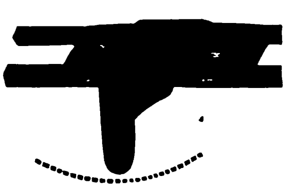
A-1



Coupling Link and Block

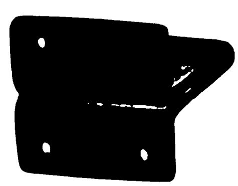


A-42

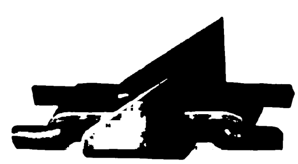


A-42 With C Flight Wing

A-42 With TI-2 Pipe Attachment



G-9 or VE-1

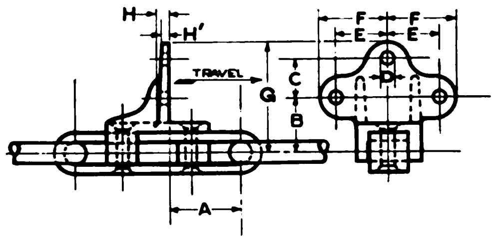


S-4

Flat and Round Steel Link Chains

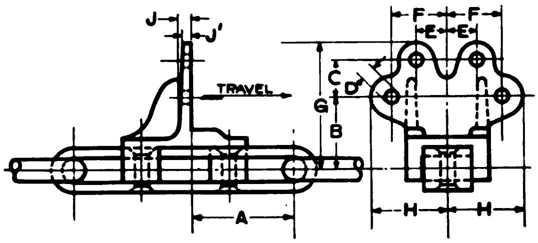
Attachments

A Attachment
(Malleable Iron)



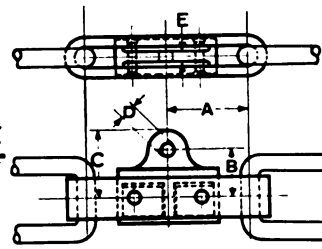
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	H¹
Carried in Stock Sizes	504½	1 13/16	1 5/8	1¼	3/8	Round—Straight	1 5/8	2 1/8	3 7/16	¼	3/16
	506	2¾	1 5/8	1¼	3/8	" "	1 5/8	2 1/8	3 7/16	5/16	¼
	516	2 5/8	1 15/16	1 9/16	3/8	" "	1 7/8	2 7/16	4	3/8	¼

A-1 Attachment
(Malleable Iron)



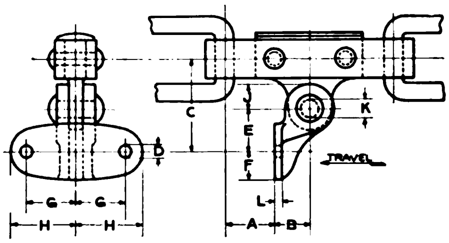
Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J	J¹
Carried in Stock Sizes	518	3¾	2 5/8	1 5/16	3/8	Round—Straight	1 3/32	2	4 9/16	2¾	13/32	5/16
	520	3 27/32	2 15/16	1 5/16	3/8	" "	1 3/32	2	5 1/16	2 15/16	13/32	5/16
Made on Order Size	516½	2 11/16	2 5/8	1 5/16	3/8	" "	1 3/32	2	4 9/16	2¾	13/32	5/16

A-42 Attachment
(Malleable Iron)



Class	Chain No.	A	B	C	D Diam. of Bolt or Rivet	Kind of Holes	E
Carried in Stock Sizes	506	3	1 11/16	2 3/8	½	Round–Straight	5/16
	516	3	1¾	2 7/16	½	" "	3/8
	518	4	2 1/8	3	5/8	" "	15/32
Made on Order Size	516½	2 15/16	2 1/8	3	5/8	" "	15/32

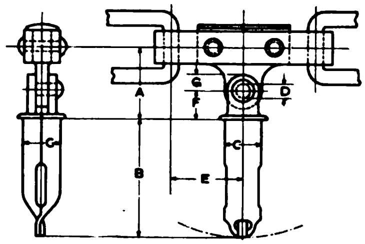
A-42 Attachment
With C Flight Wing
(Malleable Iron)



Class	Chain No.	Attachments Used	A	B	C	D Dia. of Bolt or Rivet	E	F	G	H	J	L	K Dia. of Bolt or Rivet
Carried in Stock Sizes	506	A-42 & No. 22-C	2	1	3 3/16	3/8	1½	¾	1 17/32	2 7/32	5/8	¼	½
	516	A-42 & No. 22-C	2	1	3¼	3/8	1½	¾	1 17/32	2 7/32	5/8	¼	½
	518	A-42 & No. 23-C	2¾	1¼	3 5/8	3/8	1½	1	1¾	2 5/16	7/8	¼	5/8
Made on Order Size	516½	A-42 & No. 23-C	1 11/16	1¼	3 5/8	3/8	1½	1	1¾	2 5/16	7/8	¼	5/8

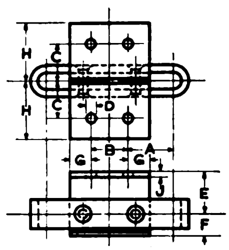
Flat and Round Steel Link Chains

Attachments



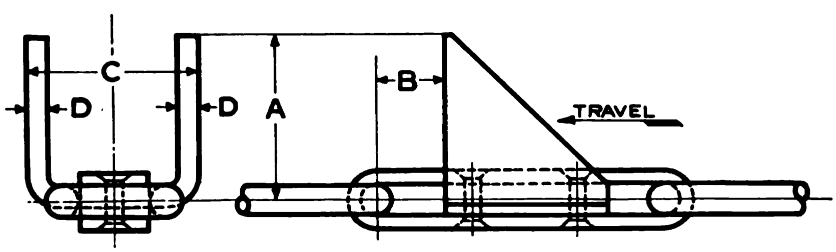
A-42
With T1-2 Pipe
Attachment
(Malleable Iron)

Class	Chain No.	Attachments Used	A	B	C	D Diam. of Bolt or Rivet	E	F	G
Carried in Stock Sizes	506	A-42 & No. 11T-1-2	2 5/8	4 3/4	1 1/4	15/32	3	15/16	21/32
	516	A-42 & No. 11T-1-2	2 11/16	4 3/4	1 1/4	15/32	3	15/16	21/32
	518	A-42 & No. 14T-1-2	3 5/16	4 13/16	1 1/2	9/16	4	1 3/16	21/32
Made on Order Size	516 1/2	A-42 & No. 14T-1-2	3 5/16	4 13/16	1 1/2	9/16	2 15/16	1 3/16	21/32



G-9 and VE-1 Attachment
(Steel Angles)

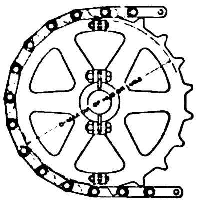
Class	Chain No.	Name of Attachment	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J
Carried in Stock Sizes	506	G-9	2 3/8	1 1/4	1	3/8	Round—Straight	1 1/2	1	1	1 9/16	1/4
	516	G-9	2 1/8	1 3/4	1 5/8	3/8	" "	2	1	1	2 5/8	1/4
	516	VE-1	1 27/32	2 5/16	1 5/8	3/8	" "	2 3/8	1 1/8	23/32	2 5/8	1/4
	518	G-9	2 15/16	2 1/8	1 13/16	3/8	" "	2 1/4	1 1/4	1 3/16	2 5/8	5/16
	518	VE-1	2 1/2	3	1 7/8	1/2	" "	2 1/2	1 1/2	3/4	3 1/8	5/16
	520	G-9	2 3/4	2 1/2	2	1/2	" "	2 1/2	1 1/2	1 1/4	3 3/16	5/16
Made on Order Sizes	504 1/2	G-9	1 3/8	1 1/4	1	3/8	" "	1 1/2	1	1	1 9/16	1/4
	516 1/2	G-9	1 7/8	2 1/8	1 13/16	3/8	" "	2 1/4	1 1/4	1 3/16	2 5/8	5/16
	520 1/2	G-9	2 1/2	3	2 1/4	5/8	" "	3	1 3/4	1 5/16	3 3/16	3/8
	521	G-9	3 1/2	3	2 1/4	5/8	" "	3	1 3/4	1 5/16	3 3/16	3/8



S-4 Attachment
(Steel Plate)

Class	Chain No.	A	B	C	D
Made on Order Sizes	520 1/2	5 3/8	1 3/16	5 1/4	5/8
	521	5 13/16	2 3/16	6	3/4

Flat and Round Steel Link Chains



Sprocket Wheels for Flat and Round Chains

Always give Pattern Number when ordering and state whether Driving or Driven Wheels are required. If not stated, Driven Wheels will ordinarily be furnished.

For List Price—See Price List Bulletin

CAST IRON

No. 504½

No. of Teeth ⊙	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
4▲*	10.69	S-3052	10.73	S-3053	8
5▲*	13.12	S-3054			10¼
6▲*	15.62P	S-3055	15.62P	S-3055	13
7▲*			18.16	S-3056	14½
8*	20.59	S-3057	20.65	S-3058	18
9*	23.20	S-3059			20
14*	35.75	S-3060			32

No. 506

No. of Teeth ⊙	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
3▲*	12.30	S-3061	12.33	S-3062	8¼
4▲*	15.90	S-3063	15.95	S-3064	12½
5*	19.55	S-3065	19.64	S-3066	16½
6*	23.32	S-3067	23.39	S-3068	20
7*	27.07	S-3069	27.14	S-3070	24
8*	30.98	S-3071	31.20	S-3072	28
9*	34.60	S-3073	34.72	S-3074	31½
12*	46.36	S-3075	46.50	S-3076	43¼
14*	53.61	S-3077	53.77	S-3078	50½
16*			61.36	S-3079	58¼

No. 516

No. of Teeth ⊙	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
4*▲	15.94	S-3080	15.98	S-3081	12¼
5*	19.63	S- 983	19.69	S-3082	16¼
6*	23.35	S-3083	23.41	S-3084	20
7*	27.10	S- 643	27.18	S 3085	24
8*	30.90P	S- 119	30.90P	S- 119	27¾
9*	34.64	S-3086	34.74	S-3087	31½

No. 516 (Cont'd,

No. of Teeth ⊙	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
10*	38.43	S-3088	38.53	S-3089	35¼
11*	42.20	S-3090	42.32	S-3091	39
12*	46.00	S-3092	46.12	S-3093	43
15*	57.40	S-3094	57.56	S-3095	54⅛

No. 516½

No. of Teeth ⊙	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
4*	16.06	S-3096	16.12	S-3097	12¼
5*	19.73	S- 395	19.79	S- 653	16¼
6*	23.45	S-3098	23.54	S- 371	20
7*	27.20	S-3099	27.28	S-3100	24
8*	30.97	S-1039	31.05	S- 392	27¾
9*	34.75	S-3101	34.87	S-3102	31½
10*	38.54	S-3103	38.66	S-3104	35¼
11*	42.32	S-3105	42.46	S-3106	39
12*	46.14	S-3107	46.30	S-3108	43
15*	57.54	S-3109	57.72	S-3094	54¼

No. 518

No. of Teeth ⊙	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
4*	21.22	S-3110			17
5*	26.14	S-3111	26.20	S-3113	22
6*	31.10	S-3112	31.18	S-3114	27¼
7*	36.10	S- 591	36.20	S-3115	32½
11*	56.26	S-3116	56.40	S-3117	53
14*	71.41	S-3118	71.59	S-3119	68

No. 520

No. of Teeth ⊙	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
4*	21.00	S-3120			16
5*	26.10	S- 893	26.34	S- 994	21¾
6*	31.18	S-3121	31.40	S- 574	27
7*	36.25	S-1007	36.50	S- 544	32
9*	46.46	S-3122	46.70	S-3123	42¼

No. 520½

No. of Teeth ⊙	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5*	26.21	S- 608	26.30	S-3124	21½
6*	31.16	S- 609			26½
7*	36.15	S- 555	36.27	S-3125	32

No. 521

No. of Teeth ⊙	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
4*	26.54	S-3126	26.61	S-3127	21½
5*	32.68	S-3128			27¾
6*	38.89	S-3129			34¼

CAST STEEL

No. 506

No. of Teeth ⊙	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5	19.64	S-3066			16½
9	34.60	313	34.72	314	31½

No. 516

No. of Teeth ⊙	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5			19.69	697	16¼
6	23.35	942			20
8			30.94	674	27¾
9	34.74	S-3087	34.74	651	31½

No. 516½

No. of Teeth ⊙	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5			19.69	S-3082	16¼
6	23.54	S- 371			20

No. 518

No. of Teeth ⊙	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
6			31.18	712	27¼

No. 520

No. of Teeth ⊙	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
5	26.34	S- 994			21¾

No. 520½

No. of Teeth ⊙	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
7	36.27	S-3125			32

▲ Plate Center Wheels.
* Indicates Wheels which can be furnished with Chilled Rims.
P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.
⊙ One tooth for every 2 pitches.

Flanged Idlers for Jeffrey "Flat and Round" Chains

For List Price—See Price List Bulletin

Furnished in Cast Iron, Cast Steel and Chilled Rim.

Single Flanged Idlers

Nos. 504½ and 506

Actual Face Diam. Inch	Depth‡ Flange Inches	Pattern No.
8⅛	⅞	29660
10⅛	1¼	29665
15¼	1	29685
20¼	1½	29634
23	2	29640
31⅜	2½	29652

No. 516

Actual Face Diam. Inch	Depth‡ Flange Inches	Pattern No.
12	1½	60231
18⅛	1¼	29693
20½	1½	60230
31⅜	2½	29652

Nos. 516½ and 518

Actual Face Diam. Inch	Depth‡ Flange Inches	Pattern No.
10⅛	1	29671
24¼	1¼	29644
64	1½	60144

Nos. 520, 520½ and 521

Actual Face Diam. Inch	Depth‡ Flange Inches	Pattern No.
12⅛	⅝	29682

Double Flanged Idlers†

Nos. 504½ and 506

Actual Face Diam. Inch	Depth‡ Flange Inches	Pattern No.
10⅜	11/16	29668
11	1½	29681
12⅛	1¼	29658
16⅛	1 3/16	29695
20 3/16	1⅝	60069

Nos. 516½ and 518

Actual Face Diam. Inch	Depth‡ Flange Inches	Pattern No.
12⅛	1 7/16	29672

No. 520

Actual Face Diam. Inch	Depth‡ Flange Inches	Pattern No.
12⅛	1 7/16	29672
27¾	1⅝	29638

Nos. 520½ and 521

Actual Face Diam. Inch	Depth‡ Flange Inches	Pattern No.
16⅛	1 3/16	29633
27¾	1⅝	29638

†Not furnished with Chilled Rims.
‡In use of Idlers, note that the depth of Flange clears back of attachments used.

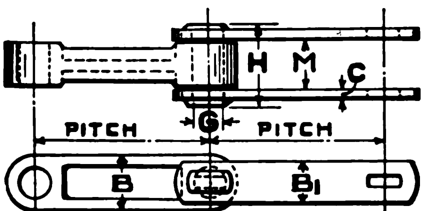
Climax Steel Chains

Drop Forged Type

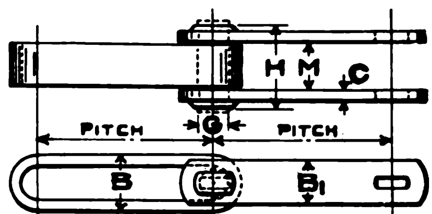
Strap and Bar Type

SERVICE— This Chain is economically fitted to Elevator and Scraper Conveyor Service where heavy shocks and gritty or acid conditions are encountered such as carbide, coke, stone, garbage, etc., with preference being given to the Drop Forged Type where much grit comes into actual contact with the chain. This chain is also well fitted to heavy duty haul-up service.

CONSTRUCTION— Made with Drop Forged and also Strap Links alternating with Steel Side Bars into which the ends of milled pins are securely riveted. These Milled Pins while short in length are extra large in diameter thus giving the greatest per inch wearing surface of pin for the space occupied by the chain.



Drop Forged Type (Formerly Michigan)



Strap and Bar Type (Formerly Ohio)

Chain No.	Pitch Inches	Approx. Weight Per Foot Lbs. Drop Forged Type	Approx. Weight Per Foot Lbs. Strap Bar Type	‡ Working Strength at 150 ft. Per Min.	† Max. Speed in Feet Per Min.	Works on Sprocket	B Drop Forged Type	B Strap Bar Type	B1	C	G	H	M
306½	6	11.00	7.70	6575	300	306½	2⅛	2¼	1¾	⅜	1⅜	$3\frac{1}{16}$	$1\frac{13}{16}$
356½	6	8.40	5.90	4700	400	356½	1⅞	2	1½	$\frac{5}{16}$	1¼	$2\frac{11}{16}$	$1\frac{9}{16}$
357½	7	13.10	9.20	6575	300	357½	2⅛	2¼	1¾	⅜	1⅜	$3\frac{1}{16}$	$1\frac{13}{16}$
358½	8	14.50	10.20	9000	300	358½	2½	2⅝	2	½	1½	3⅝	$2\frac{1}{16}$
362½	12	21.00	17.90	13000	200	362½	3¼	3⅛	2½	⅝	1¾	$4\frac{5}{16}$	$2\frac{9}{16}$

"Climax" Chain in double strands under very gritty conditions, may have hard iron wearing blocks placed upon cross bars with the blocks sliding upon guides or trough supports, and with the chains overhanging free from direct contact with the material carried.

Bold Face Type indicates **Carried in Stock** sizes to cover all reasonable demands; all others subject to occasional delays.

†Economical speeds are not over half of Max. Speeds.

‡Working Strengths at Speeds greater than 150 feet per minute, but not exceeding Maximum Speeds given, are the following per cent. of tabulated working strength: 200 to 300 feet, 85%; 300 to 400 feet, 75%.

Sprocket Wheels for Climax Chains

Cast Iron

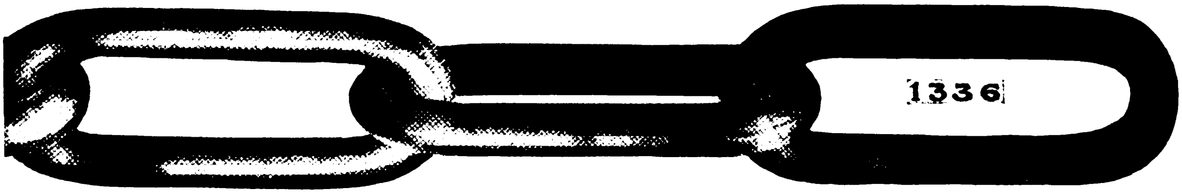
No. of Teeth †	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
No. 306½					
4▲*	15.64	S-3251			11½
5▲*	19.36	S-3252	19.47	S-3253	15¾
6*	23.12	S-3254	23.25	S-3255	19½
8*	30.67	S-3256	30.84	S-3257	27
9*	34.46	S-3258	34.65	S-3259	31
10*	38.25	S-3260	38.46	S-3261	34¾
No. 356½					
4▲*	15.64	S-3162			11¾
5▲*	19.36	S-3163	19.47	S-3164	16
6*	23.12	S- 792	23.25	S- 601	19¾
7*	26.96P	S-3165	26.96P	S-3165	23½
8*	30.67	S-3166	30.84	S-3167	27¼
9*	34.46	S-3168	34.65	S-3169	31¼
10*	38.25	S-3170	38.46	S-3171	35
No. 357½					
5*	22.59	S- 769			18
6*	26.98	S-3172	27.12	S-3173	22½
7*	31.37	S-3174	31.54	S- 506	27½
8*	35.79	S-3175	35.98	S-3176	32
9*	40.21	S-3177	40.42	S-3178	36½
11*			49.06	S-3179	45¼
14*	62.36	S-3180	62.69	S-3181	58½
16*	71.24	S-3182	71.62	S-3183	67½
No. 358½					
5*	25.89P	S-3184	25.95	S-3186	20
6*	30.84	S-3187	30.98	S- 301	26¼
7*	35.86	S-3188	36.04	S-3189	31¼
8*	40.90	S-3190	41.11	S-3191	36½
9*	45.96	S-3192	46.18	S-3193	41½
No. 362½					
4*	31.29	S-3262	31.43	S-3263	25
5*	38.76	S-3264			33

Cast Steel

No. of Teeth †	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
No. 306½					
5	19.36	815			15¾
7	26.89	951			23¼
8	30.84	S-3257			27
No. 357½					
14	62.36	864	62.69	863	58½
No. 358½					
5	25.82	564	25.95	638	20
6			30.98	562	26¼
7	35.86	563			31¼
No. 362½					
6	46.36P	61114	46.36P	61114	41

▲ Plate Center Wheels.
* Indicates Wheels which can be furnished with Chilled Rims.
P Indicates Perfect Diameter of Sprocket which can be used either for Driver or Driven.
†One tooth for every 2 pitches.
Single and Double Flanged Idlers for Climax Chains on application.

Long Link Coil Chains



Used Extensively for Conveyors and Elevators in the Timber Industry for the Handling of Logs, Lumber, Refuse, etc.

For List Price—See Price List Bulletin

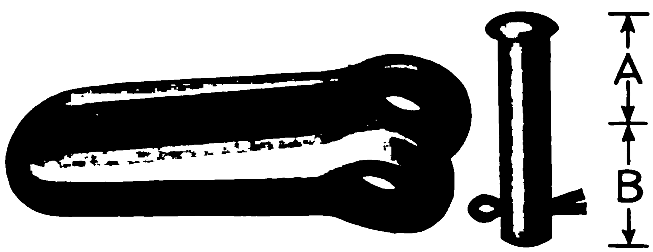
Chain No.	Approx. Weight in Lbs.	‡ Working Strength 150 ft. per Min.	†Max. Speed ft. per Min.	Dimensions		
				Stock Diam.	Inside	
					Length	Width
530	2.0	1390	250	½	4	$\frac{11}{16}$
531	2.5	2200	225	⅝	5	1
532	4.0	3375	225	¾	6	1⅛
533	5.25	4820	200	⅞	7	1¼
534	7.0	5120	175	1	7	1¾
535	9.25	6400	175	1⅛	8	2
536	11.75	7800	175	1¼	8	2¼
541	7.5	5120	200	1	6	1¾
542	5.5	4820	225	⅞	6	1¼

‡Working Strengths are increased or decreased for speeds other than 150 feet per minute; See page 429 and use but half of values thus obtained for service in abrasively gritty materials.

†Economical Speeds are not over 75% of Max. Speeds.

Bold Face Type indicates carried in stock sizes to cover all reasonable demands; all others subject to occasional delays.

Standard Coupling Link and Pin



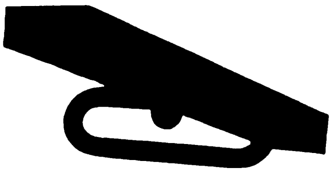
Overall Dimensions of Malleable Iron Coupling Links with Cottered Pins

For List Price—See Price List Bulletin

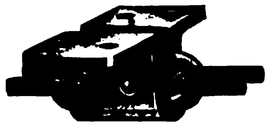
Chain No.	A	B	Chain No.	A	B
530	$1\frac{3}{16}$	$1\frac{11}{32}$	533	1⅞	$1\frac{15}{16}$
531	$1\frac{7}{16}$	$1\frac{9}{16}$	534	$2\frac{5}{16}$	$2\frac{5}{16}$
532	$1\frac{21}{32}$	1¾	535	$2\frac{19}{32}$	$2\frac{9}{16}$

Long Link Coil Chains

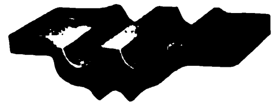
Attachments



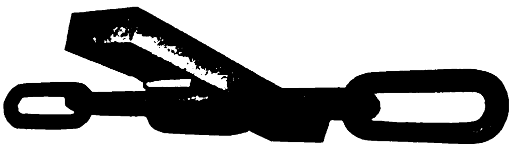
U-Bolt with Plate Washer (Link is part of Chain)



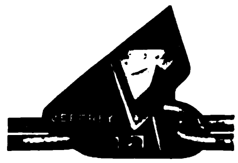
K-2



K-5



The K-5 Attachment shown above is bolted up under wood cross-bar



S-1½ Log Spur

Dimensions of Attachments given on following page

Special Cable Chain

For List Price—See Price List Bulletin

Chain No.	Diameter of Stock Inches	Pitch or Inside Length Inches	Approx. Weight per Foot Lbs.	‡Working Strength at 150 ft. per Min. Lbs.	† Maximum Speed Feet per Min.
904	¼	.8305	.75	1000	800

†Economical Speeds not over half of Maximum Speeds.
‡Working Strengths are increased or decreased for speeds other than 150 ft. per minute. See page 429.

Pocket Sheave Drive Wheels For Cable Chains

For List Price—See Price List Bulletin

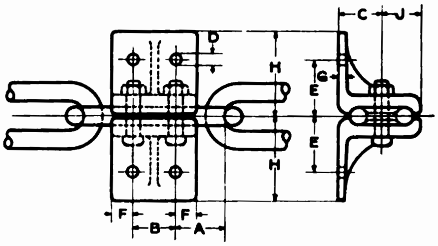
Approx. Pitch Diameter Inches	No. of Pockets	Pattern No.	Plain Grooved Sheaves	
			Approx. Pitch Diam. Inches	Pattern No.
6¼	12	18220	5	12885
8	15	18221	8	12256
10¼	19	18222	24	8257
12¼	23	18223		
13¾	26	23114		
15	28	18243		
18	34	18244		
22½	42	18245		

Long Link Coil Chains

Attachments

K-2 Attachment

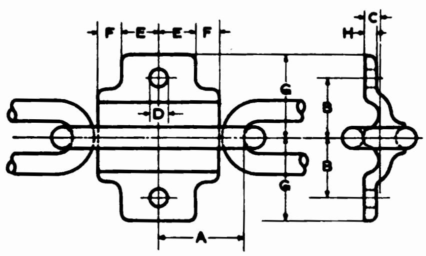
(Cast Iron)



Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J	Pattern Number
Made on Order Sizes	530	1 5/16	1 3/8	1 3/16	3/8	Round—Straight	1 3/4	9/16	1/4	2 7/16	1 3/16	------
	531	1 3/4	[illegible]	1 9/16	5/16	" "	2	3/4	1/4	3	1 7/16	4233
	532	2	2	1 27/32	3/8	" "	2 1/4	1	5/16	3	1 11/32	3812
	533	2 1/4	2 1/2	2 1/16	1/2	" "	2 5/16	1	3/8	3 1/16	1 1/2	------
	542	1 3/4	2 1/2	2 1/16	1/2	" "	2 5/16	1	3/8	3 1/16	1 1/2	------

K-5 Attachment

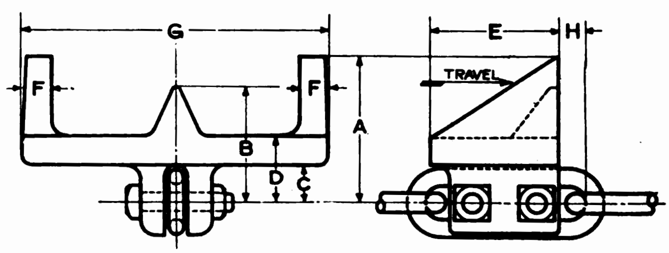
(Cast Iron)



Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H
Made on Order Sizes	530	2	2 1/8	13/32	1/2	Round—Straight	1	3/8	[illegible]	[illegible]
	531	2 1/2	2 1/8	1/2	5/8	" "	1 5/16	7/16	[illegible]	7/16
	532	3	2 1/8	9/16	5/8	" "	1 5/16	[illegible]	[illegible]	7/16
	533	3 1/2	2 5/8	17/32	5/8	" "	1 5/16	1 1/16	3 7/16	7/16
	542	3	2 5/8	17/32	5/8	" "	1 5/16	1 1/16	3 7/16	7/16

S-1½ Spur Attachment

(Cast Iron or Cast Steel)



Class	Chain No.	Pattern No.	A	B	C	D	E	F	G	H
Carried in Stock Sizes	530	17473	3 11/16	2 15/16	15/16	1 11/16	3 1/4	5/8	7 3/4	[illegible]
	531	18726	4 3/8	3 1/2	1 1/8	2 1/8	3 3/4	5/8	8 1/4	[illegible]
	532	18727	5	4	1 3/8	2 1/2	4 1/8	3/4	9	1 1/8
	533	18728	5 1/2	4 1/2	1 1/2	2 3/4	4 1/2	3/4	9 1/2	1 1/4
	534	17211	6 1/8	5 1/8	1 7/8	3 1/4	5	3/4	10	1 3/8
	542	18728	5 1/2	4 1/2	1 1/2	2 3/4	4 1/2	3/4	9 1/2	1 1/4
Made on Order Sizes	535	18729	6 3/4	5 5/8	2 1/8	3 5/8	5 1/2	7/8	10 1/2	2
	536	18730	7 1/2	6 1/4	2 3/8	4	5 7/8	1	11	1 1/4
	541	17211	6 1/8	5 1/8	1 7/8	3 1/4	5	3/4	10	1 3/8

Long Link Coil Chains

Fig. 1 Plain Solid Tooth Sprocket

Cast Iron Sprockets

For Best Service Use **Solid Teeth** for Short Conveyors of Ordinary Duty. **Adjustable Teeth** for long Conveyors or Heavy Duty.

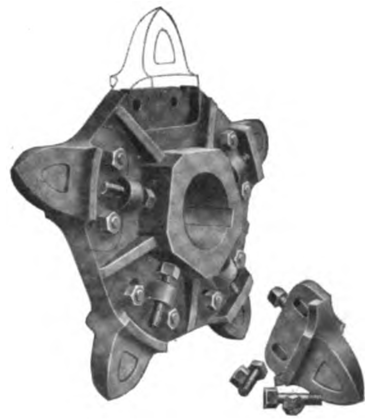


Fig. 2 Plain Adjustable Tooth Sprocket

Chain No.	No. of Teeth	Plain Solid Tooth—Fig. 1 Driven Pitch Dia.	Plain Solid Tooth—Fig. 1 Driven Pat. No.	Plain Solid Tooth—Fig. 1 Driver Pitch Dia.	Plain Solid Tooth—Fig. 1 Driver Pat. No.	Flanged Solid Tooth—Fig. 3 Driven Pitch Dia.	Flanged Solid Tooth—Fig. 3 Driven Pat. No.	Flanged Solid Tooth—Fig. 3 Driver Pitch Dia.	Flanged Solid Tooth—Fig. 3 Driver Pat. No.	Plain Adj. Tooth—Fig. 2 Pitch Dia.	Plain Adj. Tooth—Fig. 2 Center Pat. No.	Plain Adj. Tooth—Fig. 2 Teeth Pat. No.	Flanged Adj. Tooth—Fig. 4 Pitch Dia.	Flanged Adj. Tooth—Fig. 4 Center Pat. No.	Flanged Adj. Tooth—Fig. 4 Teeth Pat. No.
530	5	13.17	S-3130 26888P†	13.22	S-3131 26888P†	13.19	12599P†	13.19	12599P†						
	6	15.64	S-3132P†	15.69	S-3133 S-3132P†	15.66	S-3112P†	15.66	S-3112P†	15.66	8250	14585	15.66	8250	8249
	8	20.67	S-3134P S-3135P†	20.67	S-3134P S-3135P†	20.63	S-3213†			20.67	19254†	26621	20.67	8706 19254†	8705 19253
	9	23.18	S-3136P	23.18	S-3136P	23.18	12955P†	23.18	12955P†						
531	4	13.45	S-3138P	13.45	S-3138P	13.45	12574P†	13.45	12574P†						
	5	16.48	S-3141P† S-3140P	16.48	S-3141P† S-3140P	16.44	S-3139†								
	6	19.52	S-3143P S-3142P†	19.52	S-3143P S-3142P†			19.59	S-3137†	19.52	5234	5233	19.52	5234 15874†	8247 15875
	7	22.73	S-3144P	22.73	S-3144P	22.73	S-3145P†	22.73	S-3145P†						
	8	25.72	S-3214†	25.87	S-3146†			25.87	S-3215†				25.80	28346†	15875
	9	28.97	S-3147P†	28.97	S-3147P†	28.97	15963P†	28.97	15963P†						
532	5	19.69	S-3149P S-3150†	19.69	S-3149P	19.69	9959P†	19.69	9959P†						
	6	23.62	S-3152† S-3151P	23.62	S-3151P	23.62	S-3216P†	23.62	S-3216P†	23.61	8137†	14639	23.61	8137†	8138
	8			31.25	S-3153†	30.98	S-3217†								
533	4	18.74	S-3154			18.78	S-3155P	18.78	S-3155						
	5	23.06	S-3156P†	23.06	S-3156P†	23.06	12396P S-3218P†	23.06	12396P S-3218P†	23.06	8727 8047†	8726 8048	23.06	8727 8047†	12263 12171
	7			31.73	S-3157										
534	5			23.17	S-3158 S-3219†	23.13	9992P†	23.13	9992P†	23.13	5605 5314†	399 5313	23.13	5605 20740†	12382 20729
	7	31.78	27250												
535	5	26.52	26883P†	26.52	26882P†	26.52	8713P†	26.52	8713P†	26.52	8592	14980	26.52	8592	8591
	6												31.55	8511	8510
536	5	26.49	S-3160	26.59	S-3161	26.54	S-3159	26.54	S-3159	26.54	5078	5077	26.54	5078	8595
541	5												19.96	8159	8158
542	6					23.50	S-3220P S-3221P†	23.50	S-3220P S-3221P†				23.50	8137†	17137

†Gapped Wheels for clearing such attachments or parts as may extend below the Chain as it rides over the wheels. All other wheels are not gapped.

P Indicates Perfect diameter of Sprockets which can be used either for Driven or Driver.

Fig. 3 at left shows Jeffrey Flanged Solid Tooth Sprocket.

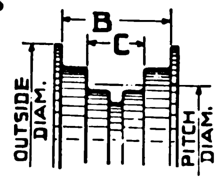
Fig. 4 at right shows Flanged Adjustable Tooth Sprocket.

Long Link Coil Chains

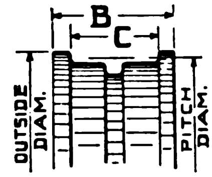
Cast Iron Idlers

Heavy Grooved Idlers

In the use of S-1½ Spurs (page 524) the width "G" of Spurs must be less than distance "B" listed below on those Heavy Flanged and Grooved Idlers having Outside Flanges. See note‡.



Type B



Type A

Heavy Grooved Idler

Heavy Flanged and Grooved Idlers—Type B

Chain No.	Approx. Pitch Diam. Inches	Pattern No.	Dimensions—Inches B	Dimensions—Inches C	Outside Diam.
530	16	18993	9	3¾	23½
531	16	18994	9⅝	4¼	24⅛
532	24	18995	10¾	4⅞	33⅜
Heavy Grooved Idlers—Type A					
533	24	18996	9½	5¾	29⅛
534	27	18997	10	6⅜	33¼
535	27	18998	10½	6¾	34⅛
536	27	18999	11¼	7½	35

Inverted Spur Idlers

Chain No.	Approx. Pitch Diam. Inches	List Price	Pattern No.	Dimensions—Inches B	Dimensions—Inches C	Outside Diam.
531	17½		14837	6¼	3½	17½
532	18		61796	6¼	4	20
532	20	See	5129	6¼	4	22¾
532	24	Price	61794	6¼	4	25½
533	23	List	61797	5¼	3½	24¾
534	19½	Bulletin	61799	7¼	4⅝	20½
535	23		61800	8	4¾	24
536	20		8231	8	5¼	21¼
536	26		13634	8	5¼	27¼

§Support Inverted Spurs on runways between Idlers. This is a preferred construction.

Inverted Spur Idler§

Plain Grooved Idler‡

Plain Grooved Idlers‡

Chain No.	Approx. Pitch Diam. Inches	Outside Diam. Inches	List Price	Pattern No.
530	12	14		61802
530	16	18	See	61811
531	14	15½	Price	13960
531	20	20	List	61792
532	20	20¾	Bulletin	61795
534	24	25¾		61798

Drum Idlers

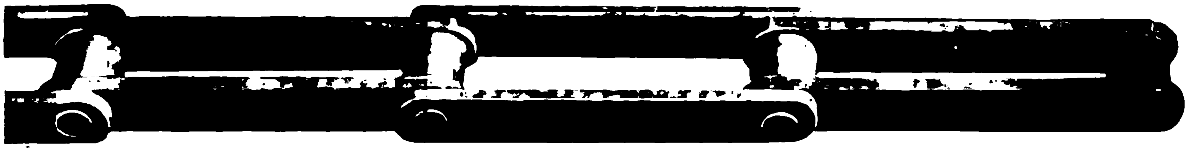
Chain No.	Approx. Pitch Diam. Inches	Face Inches Without Steel Extensions	Face Inches With Steel Extensions	Outside Diameter Inches	Pattern No.
530	12	5⅞	12 to 16	12¼	61791
530	16	6	16 to 20	16	61809
531	16	6½	20 to 24	18⅛	61808
531	20	6¾	20 to 24	19½	61810
532	20	8	20 to 24	20	61806
532	24	8½	20 to 24	24	61805
533	20	8¼	20 to 24	20	61807
533	24	9½	20 to 24	27	61801
534	24	8	20 to 24	25¾	61803

Drum Idler with Steel Extensions

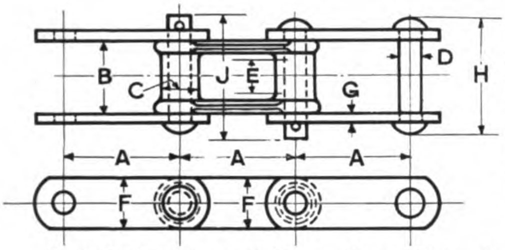
Drum Idler with Flanges but without Steel Extensions

‡Plain Grooved Idlers are used for the support of plain chains or chains with U-Bolts and Cross Bars, page 523, where the cross bars rest in trough or on outside supports.

Phosphor Bronze Bushed Chains



Can be furnished with rivet or coupling pins



Solid Link, Bushing and Pin

This Chain is practically our regular "Hercules" design as shown on page 470 with a renewable hard bronze bushing and is therefore a step further in the refinement of the Hercules type of chain for use in handling Gritty Material, including Ores, Broken Stone, Coal, Sand, Gravel, Slag, Ashes Chemicals, etc.

The Side Bars are High Carbon Steel; the Bushings, Hard Bronze; the Solid Links, Malleable Iron; and the Pins, Hardened Steel.

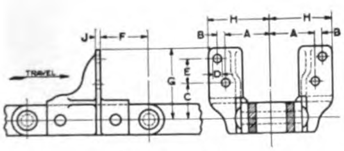
Both the Bushings and Pins can be readily replaced so that at a small expense, the Chain can be made practically as good as new.

Dimensions of Phosphor Bronze Bushed Chains

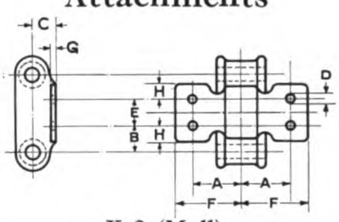
Chain No.	A Pitch Inches	‡Working Strength at 150 F. P. M.	Max.† Speed in F. P. M.	Approx. Weight in Lbs.	B	C	D	E	F	G	H	J
578	6.00	6000	400	12.2	2¾	2	¾	1¾	2	½	4⅜	4⅝
579	8.00	3500	375	6.6	2¼	1½	⅝	1¼	1½	⅜	3 9/16	3⅞
580	6.00	3500	400	6.8	2¼	1½	⅝	1¼	1½	⅜	3 9/16	3⅞

‡Working Strengths for Speeds other than 150 F. P. M. See page 429. †Economical Speeds are half of Max. Speeds

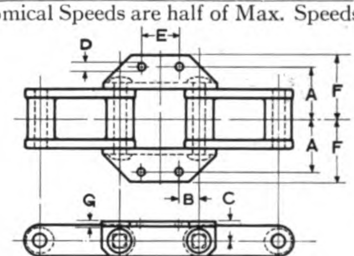
Attachments



F-2 (Mall)



K-2 (Mall)



K-2 (Angle)

Dimensions of Attachments—F-2 (Mall.)

Class	Chain No.	A	B	C	D Diam. of Bolts	Kind of Holes	E	F	G	H	J
Made on Order Sizes	579	2¼	⅜	1¾	⅜	Round—Straight	1¼	3⅜	3½	3 1/16	¼
	580	2¼	⅜	1¾	⅜	" "	1¼	2⅜	3½	3 1/16	¼
	K-2 Mall.										
	578	2 23/32	1 15/16	1½	⅜	Round—Straight	2⅛	3⅜	⅜	......	....
	580	2½	1⅞	1 5/16	⅜	" "	2 3/16	3	5/16	......	....
	K-2 Angle										
	578	2 15/16	1⅝	1⅜	½	Round—Straight	2¾	3⅞	½	......	....
	579	2⅜	2	1¾	⅜	" "	4	3⅛	⅜	......	....
	580	2⅜	2⅛	15/16	⅜	" "	1¾	2⅞	⅜	......	....

Sprockets for Phosphor Bronze Bushed Chains

No. of Teeth	Driven Pitch Diameter Ins.	Driven Pattern No.	Driver Pitch Diameter Ins.	Driver Pattern No.	D Max. Dia. Hub or Lugs Ins.
Cast Iron No. 578					
7*	13.81	S-3222			9½
10*	19.38	S-3223			15½
12*	23.14	S-3224	23.22	S-3225	19½
14*	26.92	S-3226			23½
16*	30.70	S-3227	30.81	S-3228	27¼
18*	34.49	S-3229			31
20*	38.29	S-3230			35½
24*	45.96P	S-3231	45.96P	S-3231	42½
No. 579					
8*	20.88	S-3232			16½
No. 579 (Cont'd)					
9*	23.37	S-3233			19¼
10*	25.86	S-3234	25.91	S-3235	22
12*	30.88	S-3236			27
14*	35.92	S-3237			32¼
No. 580					
10*	19.39	S-3238			16
12*	23.15	S-3239	23.21	S-3240	20
13*	25.04	S-3241	25.11	S-3242	22
14*	26.93	S-3243	27.00	S-3244	24
16*	30.71	S-3245	30.80	S-3246	27¾
No. 580 (Cont'd)					
18*	34.50	S-3247			31½
24*	45.90	S-3248	46.03	S-3249	35¼
Cast Steel No. 578					
11			21.33	12585	17½
12	23.14	730	23.22	12586	19½
No. 580					
10	19.39	443			16
24	45.90	28512			35¼

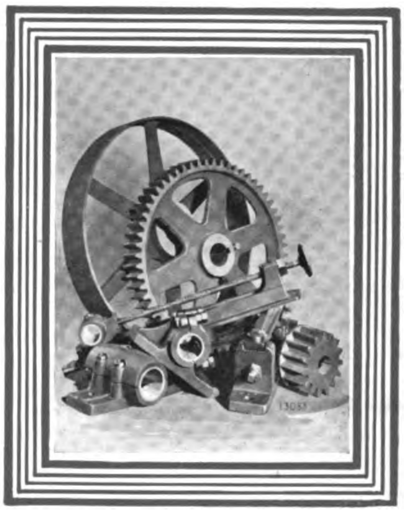
Chains

Numerical Index of Jeffrey Chains

Chain No.	* Type of Chain	Page No.	Chain No.	* Type of Chain	Page No.	Chain No.	* Type of Chain	Page No.
1	M R	484	74	Rel	464	455	Pintle	464
1	Pintle	464	75	Det.	432	462	Pintle	464
1½D Spec	M R	484	075	Det.	433	480	Rel Dg	512
E 1	Det.	433	75	Rel	464	500 D	Trans	516
2	M R	484	76½	Det.	433	504½	F & R	517
2 Spec	M R	484	77	Det.	432	506	F & R	517
2	Pintle	464	77½	M O	462	516	F & R	517
3	M R	484	78	Det.	432	516½	F & R	517
3½	M R	484	78	Rel	464	518	F & R	517
5	M R	484	82	Rel	464	520	F & R	517
5 C	M R	484	83	M O	462	520½	F & R	517
6	M R	484	83	Det.	432	521	F & R	517
6 C	M R	484	85	Det.	432	526	Vul	504
9½	M R	484	85	M O	462	530	Coil	522
9½ Sp	M R	484	87	Rel	464	531	Coil	522
14	M R	484	88	Det.	432	532	Coil	522
14½	M R	484	88	M O	462	533	Coil	522
17	M R	484	88½	Det.	433	534	Coil	522
17	S T R	496	93	Det.	433	535	Coil	522
18	M R	484	95	Det.	432	536	Coil	522
21 C	R C	484	95	Rel	464	541	Coil	522
22 C	R C	484	97	Rel Dg	512	542	Coil	522
23 C	R C	484	98	Rel Dg	512	558	Vul	504
23	Det.	433	102	Her	471	560	S Dg	514
25	Det.	432	102 B	Her	471	562	S Dg	514
27	S T R	496	102	Rel Dg	512	564	S Dg	514
27 Sp	S T R	496	102½	Her	471	566	S Dg	514
32	Det.	432	103	Det.	432	H 567	Pintle	464
032	Det.	433	103	M O	462	570	S Dg	514
33	Det.	432	104	Rel Dg	512	571	S Dg	514
34	Det.	432	104½	Det.	433	572	S Dg	514
34½	Det.	433	108	Det.	432	575	S T R	496
35	Det.	433	108	M O	462	578	Ph Bz	527
37 Half Shoe	Det.	433	110	Her	471	579	Ph Bz	527
39–4 Bar	Det.	433	110	Rel Dg	512	580	Ph Bz	527
SS 40	S T R	496	111	Her	471	592	S Dg	514
40½	M R	484	111 Sp	Her	471	595	S Dg	514
042 Shoe	Det.	433	112	S T R	496	620	Atlas	481
42	Det.	432	112	Rel Dg	512	623½	Vul	504
42	M O	462	114	Det.	432	627	Vul	504
42 Keeper	Det.	433	116	S T R	496	H 630	Pintle	464
43–3 Bar	Det.	433	116	Rel Dg	512	631	Atlas	481
44	Det.	433	119	Vul	504	710	Atlas	481
45	Det.	432	120	S T R	496	730	Atlas	481
45 Keeper	Det.	433	120	Rel Dg	512	809	S T R	496
47 Shoe	Det.	433	122	Det.	433	823	Per	477
48	Det.	433	124	Det.	432	825	Per	477
50	Det.	432	124	M O	462	830	Per	477
51	Det.	432	124	M R	484	835	Per	477
052	Det.	433	124	Rel	464	843	Per	477
52	Det.	432	SS 124	S T R	496	844	Per	477
52	M O	462	126	M R	484	847	Per	477
52½ Heavy	Det.	433	126 C	M R	484	904	Cable	523
055 Corrugated	Det.	433	130	Trans	516	950	S T R	496
55	Det.	432	131	Her	471	951	S T R	496
55	M O	462	131	Trans	516	982	S T R	496
55 Keeper	Det.	433	132	Her	471	987	S T R	496
56½	Det.	433	132	Trans	516	1007	S T R	496
57	Det.	432	149	S T R	496	1018	S T R	496
57	M O	462	152	S R	503	1068	Vul	504
057 Shoe	Det.	433	156	M R	484	1070	Vul	504
58	Det.	433	156 C	M R	484	1072	S T R	496
60	Rel	464	180	S T R	496	1074	S T R	496
60 H	Rel	464	182	S T R	496	1076	S T R	496
62	Det.	432	182½	S T R	496	1076½	S T R	496
062	Det.	433	188	Her	471	1086	S T R	496
62	M O	462	211	Vul	504	1090	Int. Car.	490
62	M R	484	234	S T R	496	1092	S T R	496
62 Keeper	Det.	433	241	Vul	504	1093	S T R	496
62½	Det.	433	276	S T R	496	1094	S T R	496
063	Det.	433	301	S T R	496	1095	S T R	496
65	Det.	433	306½	Climax	521	1105	S T R	496
66	Det.	433	313	Vul	504	1106	S T R	496
67	Det.	432	327	Vul	504	1107	S T R	496
67	M O	462	356½	Climax	521	1114	S T R	496
072	Det.	433	357½	Climax	521	1126	S T R	496
72	Det.	433	358½	Climax	521	1126 C	S T R	496
072½	Det.	433	362½	Climax	521	1152	Pintle	464
72½	Det.	433	433½	S T R	496	1156	Rel Dg	512
73	Rel	464	442	Pintle	464	4103	Pintle	464

*Abbreviations for names of chains: M R—Malleable Roller; Pintle—Pintle; Det.—Detachable Link Chain; Int. Car.—Intermediate Carrier; S T R—Steel Thimble Roller; R C—Roller Carrier; M O—Mey-Oborn; Her—Hercules; Rel Dg—Reliance Drag; Vul—Vulcan; Rel—Reliance; Trans—Reliance Transfer; S R—Steel Roller; Climax—Climax; F & R—Flat and Round (Steel Link); Coil—Coil; S Dg—Steel Drag; Ph Bz—Phosphor Bronze; Atlas—Atlas; Per—Peerless; Cable—Cable.

Transmission Machinery



Section 18

Transmission Machinery

Horse Power of Steel Shafting

For Head and Jack Shafts—Bearings Close to Main Sheaves or Pulleys

Diameter Shaft Inches	Number of Revolutions Per Minute 100	125	150	175	200	225	250	300	350	400
1 7/16	2.7	3.4	4.1	4.7	5.4	6.1	6.7	8.1	9.5	10.8
1 11/16	3.8	4.8	5.7	6.7	7.7	8.6	9.6	11.5	13.4	15.4
1 15/16	5.8	7.3	8.7	10.4	11.6	13.1	14.5	17.5	20.0	23.0
2 3/16	8.4	10.5	12.6	14.7	16.8	19.0	21.0	25.0	29.0	34.0
2 7/16	11.6	14.4	17.3	20.0	22.0	26.0	29.0	35.0	40.0	46.0
2 11/16	15.5	19.4	23.0	27.0	31.0	35.0	39.0	46.0	54.0	62.0
2 15/16	20.0	25.0	30.0	35.0	41.0	46.0	51.0	61.0	71.0	81.0
3 7/16	32.0	40.0	49.0	57.0	65.0	73.0	81.0	97.0	113.0	129.0
3 15/16	49.0	61.0	73.0	85.0	98.0	110.0	122.0	147.0	171.0	195.0
4 7/16	70.0	88.0	105.0	123.0	140.0	158.0	175.0	211.0	246.0	281.0
4 15/16	97.0	121.0	145.0	169.0	193.0	217.0	242.0	290.0	337.0	386.0
5 7/16	133.0	166.0	199.0	232.0	265.0	298.0	331.0	398.0	465.0	531.0
6	173.0	216.0	259.0	302.0	345.0	389.0	432.0	518.0	605.0	691.0
6½	220.0	275.0	330.0	385.0	440.0	495.0	550.0	660.0	770.0	880.0
7	274.0	343.0	412.0	480.0	549.0	618.0	686.0	823.0	960.0	1098.0
For Line Shaft Service										
1 3/16	2.1	2.6	3.2	3.7	4.2	4.7	5.3	6.3	7.4	8.4
1 7/16	3.7	4.6	5.6	6.5	7.4	8.3	9.3	11.1	13.0	14.8
1 11/16	6.0	7.5	9.0	10.5	12.0	13.5	15.0	18.0	21.0	24.0
1 15/16	9.1	11.4	13.7	15.9	18.2	20.5	22.8	27.3	31.9	36.4
2 3/16	13.1	16.4	19.7	22.9	26.2	29.5	32.8	39.3	45.9	52.4
2 7/16	18.1	22.6	27.2	31.7	36.2	40.7	45.3	54.3	63.4	72.4
2 11/16	24.3	30.4	36.5	42.5	48.6	54.7	60.8	72.9	85.1	97.2
2 15/16	31.7	39.6	47.6	55.5	63.4	71.3	79.3	95.1	111.0	126.8
3 7/16	50.8	63.5	76.2	88.9	101.6	114.3	127.0	152.4	177.8	203.2
3 15/16	76.3	95.4	114.5	133.5	152.6	171.7	190.8	228.9	267.1	305.2
4 7/16	109.2	136.5	163.8	191.1	218.4	245.7	273.0	327.6	382.2	436.8
4 15/16	150.5	188.1	225.8	263.4	301.0	338.6	376.3	451.5	526.8	602.0
5 7/16	208.0	260.0	312.0	364.0	416.0	468.0	520.0	624.0	728.0	832.0
6	270.0	337.5	405.0	472.5	540.0	607.5	675.0	810.0	945.0	1080.0
6½	343.3	429.1	415.0	600.8	686.6	772.4	858.3	1029.9	1201.6	1373.2
7	428.8	536.0	643.2	750.4	857.6	964.8	1072.0	1286.4	1500.8	1715.2

Steel Shafting

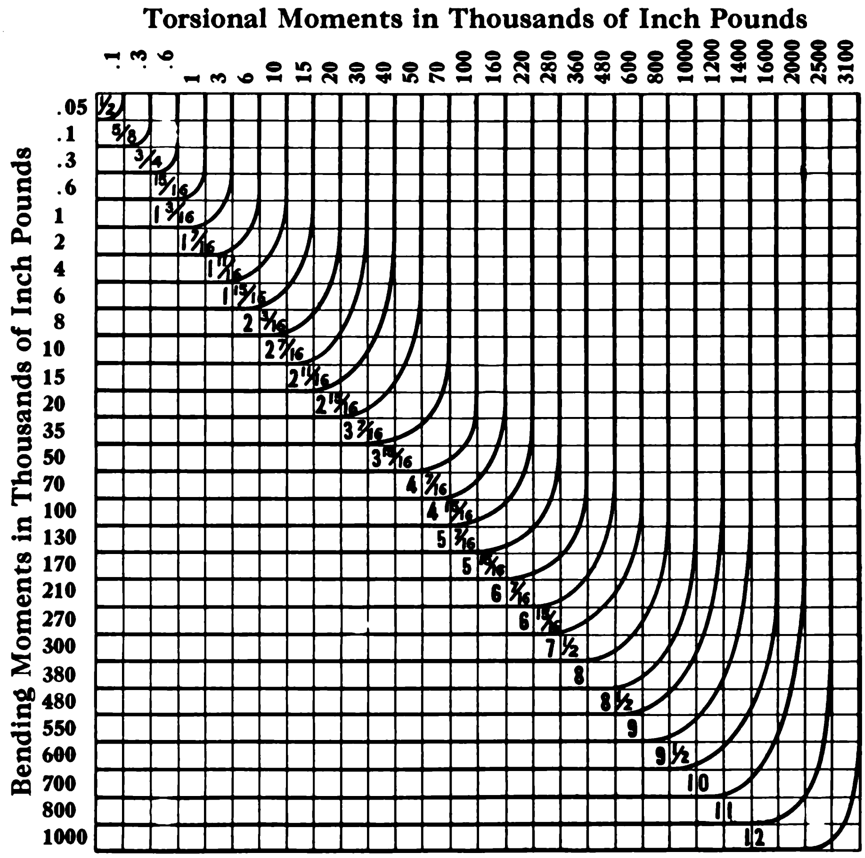
True, Straight and Standard Gauge
For List Price—See Price List Bulletin

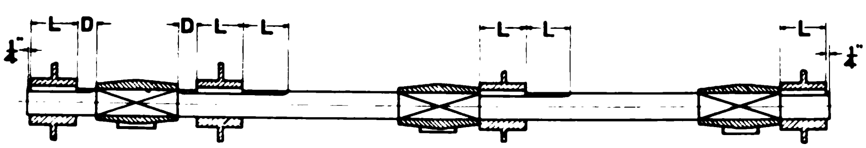
Diameter	Weight Per Foot	Diameter	Weight Per Foot	Diameter	Weight Per Foot	Diameter	Weight Per Foot
¾"	1.50	2 "	10.68	3½"	32.71	5 "	66.76
15/16"	2.35	2 3/16"	12.78	3 11/16"	36.31	5 3/16"	71.86
		2 7/16"	15.86	3 15/16"	41.40	5 7/16"	78.95
1 "	2.67	2½"	16.69			5½"	80.77
1 3/16"	3.77	2 11/16"	19.29	4 "	42.73	5 11/16"	86.38
1¼"	4.17	2 15/16"	23.04	4 3/16"	46.83	5 15/16"	94.14
1 7/16"	5.52			4 7/16"	52.58		
1½"	6.01	3 "	24.03	4½"	54.07	6 "	96.14
1 11/16"	7.60	3 3/16"	27.13	4 11/16"	58.67	6 7/16"	110.7
1¾"	8.18	3 7/16"	31.56	4 15/16"	65.10	6½"	112.8
1 15/16"	10.02					6 15/16"	128.5

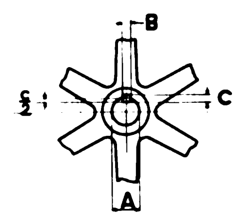
Steel Shaft Sizes from Combined Torsion and Bending Moments

A Bending Moment is that force of a given pull and leverage which is operative to bend a shaft; while a Torsional Moment is operative to twist it. The proper amount of metal in cross-section necessary to resist the largest combined action of Bending and Torsional Moments determines the shaft size.

Shaft-Sizes are to be found between the curved lines at the intersection of Bending and Torsion Values in thousands of inch lbs. as given in above Table. Unit Torsion 11350 lbs. per square inch and unit Bending 8750 lbs. upon an ultimate of 62500 lbs.







Jeffrey Standard Keys

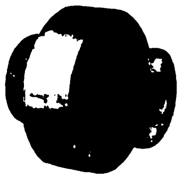
Parallel, Taper and Feather Keys only, not Fitted

For List Price—See Price List Bulletin

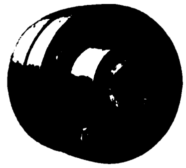
A Diam. of Shaft	B Width of Key	C Thickness of Key	D Inches	L Length of Standard Hubs	A Diam. of Shaft	B Width of Key	C Thickness of Key	D Inches	L Length of Standard Hubs
15/16	1/4	1/4	7/8	2	3 7/16	7/8	7/8	1 3/8	5 1/4
1 3/16	5/16	5/16	1	2 1/2	3 15/16	1	1	1 1/2	6
1 7/16	3/8	3/8	1	3	4 7/16	1 1/8	1 1/8	1 1/2	6 3/4
1 11/16	7/16	7/16	1	3 1/2	4 15/16	1 1/4	1 1/4	1 5/8	7 1/2
1 15/16	1/2	1/2	1 1/8	4	5 7/16	1 3/8	1 3/8	1 5/8	8 1/4
2 3/16	9/16	9/16	1 1/8	4 1/2	5 15/16	1 1/2	1 1/2	1 3/4	9
2 7/16	5/8	5/8	1 1/8	4 3/4	6 1/2	1 5/8	1 1/2	1 3/4	9 3/4
2 11/16	11/16	11/16	1 1/4	4 3/4	7	1 3/4	1 5/8	1 3/4	10 1/2
2 15/16	3/4	3/4	1 1/4	5					

Transmission Machinery

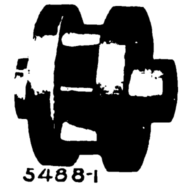
Shaft Couplings



Flange Coupling



Keyless Compression



Flexible Coupling

Flange Coupling—Accurately machined to maintain perfect shaft alignment. Reducing couplings can be furnished but at an extra charge.

Keyless Compression Coupling—This coupling is simple, strong and durable. All sizes including 3 inch are of standard construction; sizes 3 1/16 inch and above are of heavy construction.

Flexible Couplings—These Couplings made only on order. Shafts may be slightly out of line. We have Patterns for five sizes but these sizes can be made to cover quite a range of work.

For List Price—See Price List Bulletin

Flange Couplings

Diam. Shaft Inches	Pattern No.	Dimensions: Outside Diam. Inches	Dimensions: Overall Length Inches	Diam. Shaft Inches	Pattern No.	Dimensions: Outside Diam. Inches	Dimensions: Overall Length Inches
15/16	20366	5 1/2	4	3 11/16	20377	11 3/4	9 1/2
1 3/16	20367	6	4 1/2	3 15/16	20378	12 1/4	10
1 7/16	20368	6 1/2	5	4 7/16	20380	13 1/2	11
1 11/16	20369	7	5 1/2	4 11/16	20381	14 1/4	11 1/2
1 15/16	20370	7 3/4	6	4 15/16	20382	15	12
2 3/16	20371	8 3/8	6 1/2	5 7/16	20383	16	13 1/2
2 7/16	20372	8 7/8	7	5 15/16	20384	17	14 1/2
2 11/16	20373	9 3/8	7 1/2	6 7/16	20385	18 1/2	16
2 15/16	20374	9 7/8	8	6 15/16	20386	19 1/2	17
3 7/16	20376	11 1/4	9				

Flexible Couplings

Dimensions in Inches

Pattern No.	Bore	Outside Diam.	Width Belt	Distance between Flanges
24772	1 1/2 & Less	8	1 1/4	1 1/2
28497	1 11/16 to 2 3/16	10 1/2	2	2 3/4
20983	2 7/16 to 3 7/16	1 1/2	3 1/2	4 1/4
29609	3 11/16 to 4 15/16	19	5	5 1/2
16480 } 16482 }	5 7/16 to 7	21	6	6 1/2

Diameter and Length of hubs to suit conditions

Keyless Compression Couplings Single Compression

Diam. Shaft Inches	Dimensions: Outside Diam. Inches	Dimensions: Overall Length Inches	Diam. Shaft Inches	Dimensions: Outside Diam. Inches	Dimensions: Overall Length Inches
15/16	4 9/16	3 3/4	1 15/16	7 1/8	7 1/4
1 3/16	4 3/4	3 7/8	2 3/16	7 3/8	8 1/8
1 7/16	5 1/4	5 1/8	2 7/16	7 3/4	8 7/8
1 11/16	5 5/8	5 3/4	2 11/16	8	9 1/4

Keyless Compression Couplings Double Compression

Diam. Shaft Inches	Dimensions: Outside Diam. Inches	Dimensions: Overall Length Inches	Diam. Shaft Inches	Dimensions: Outside Diam. Inches	Dimensions: Overall Length Inches
2 15/16	9 1/4	11 1/8	3 15/16	11 1/16	13 1/8
3 3/16	9 1/2	11 5/8	4 7/16	11 3/4	14 1/8
3 7/16	9 7/8	12 1/8	4 11/16	12 3/4	16 1/8
3 11/16	10 1/8	12 5/8	4 15/16	12 3/4	16 1/8

Safety Set Collars

These collars are of the accepted safety type. They are faced, bored true and run smooth against bearings.

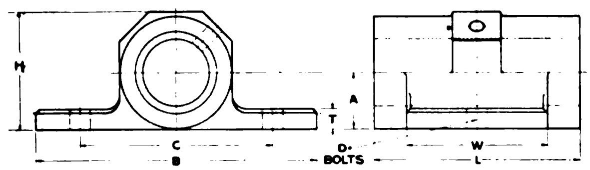
For List Prices of Solid and Split Collars, See Price List Bulletin

Size	Outside Diam. Solid	Outside Diam. Split	Thickness of Solid or Split*	Size	Outside Diam. Solid	Outside Diam. Split	Thickness of Solid or Split	Size	Outside Diam. Solid	Outside Diam. Split	Thickness of Solid or Split
15/16	2 1/8	2 11/16	1 3/16–1 5/8	2 7/16	4 5/16	4 15/16	1 7/8	4 7/16	7 5/8	8	3 1/4
1	2 1/8	2 11/16	1 3/16–1 5/8	2 1/2	4 5/16	4 15/16	1 7/8	4 11/16	7 7/8	8 1/4	3 1/4
1 3/16	2 7/16	3 1/8	1 3/8	2 11/16	4 9/16	5 3/16	1 7/8	4 15/16	8 1/8	8 1/2	3 1/4
1 7/16	3	3 3/8	1 5/8	2 15/16	4 15/16	5 7/16	1 7/8	5 7/16	8 5/8	9	3 1/4
1 1/2	3	3 3/8	1 5/8	3	4 15/16	5 7/16	1 7/8	5 11/16	9 1/8	9 1/2	3 1/4
1 11/16	3 3/16	3 5/8	1 5/8	3 7/16	5 7/16	5 15/16	2	5 15/16	9 1/8	9 1/2	3 1/4
1 15/16	3 7/16	3 7/8	1 5/8	3 11/16	5 15/16	6 5/8	2 1/4	6 7/16	10 3/8	10 1/2	3 1/2
2	3 7/16	3 7/8	1 5/8	3 15/16	6 3/16	7	2 1/4	6 1/2	10 3/8	10 1/2	3 1/2
2 3/16	4 1/16	4 11/16	1 7/8	4	6 3/16	7	2 1/4	6 15/16	10 7/8	11	3 1/2

*Two dimensions apply respectively to Solid and Split.

Transmission Machinery

Heavy Solid Journal Bearing



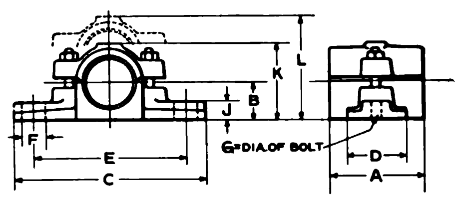
Heavier than the ordinary transmission bearing, having longer bearing and base for general elevating and conveying use. Bearings are tapped for grease cups, but cups not furnished unless ordered.

For List Price—See Price List Bulletin

Diam. Shaft In.	Plain Bored Bearing: Pattern No.	Plain Bored Bearing: Approx. Weight in Lbs.	Babbitted Bearing: Pattern No.	Babbitted Bearing: Approx. Weight in Lbs.	Pipe Tap for Grease Cup	Dimensions—Inches: A	B	C	D	H	L	T	W
15/16	14 A	1.25	15 A	1.25	1/8	7/8	5	3 1/8	3/8	1 7/8	3	7/16	2
1 3/16	14 B	3.7	15 B	4.0	1/8	1 1/16	6 1/4	4	1/2	2 1/4	4	1/2	2 1/2
1 7/16	14 C	6.0	15 C	6.5	1/4	1 1/4	6 3/4	4 1/4	5/8	2 1/2	4 1/2	1/2	3
1 11/16	14 D	8.4	15 D	9	1/4	1 1/2	8 1/8	5 1/4	5/8	2 7/8	5 1/2	3/4	3 5/8
1 15/16	14 E	12.1	15 E	13	1/4	1 11/16	8 1/2	5 5/8	5/8	3 1/2	6	3/4	4
2 3/16	14 F	15.8	15 F	17	1/4	1 13/16	8 7/8	6	5/8	3 3/4	7	3/4	4 1/2
2 7/16	14 G	21.5	15 G	23	3/8	2 1/16	10 1/4	7	3/4	4 1/4	7 1/2	3/4	5 1/8
2 11/16	14 H	26.7	15 H	28.5	3/8	2 3/16	10 5/8	7 3/8	3/4	4 5/8	8	3/4	5 5/8
2 15/16	14 I	34.5	15 I	36.5	1/2	2 7/16	12	8 1/4	3/4	5	9	7/8	6
3 7/16	14 K	49.9	15 K	52	1/2	2 3/4	12 1/2	9 1/8	7/8	5 1/2	10	1	6 1/8
3 15/16	14M	69.7	15M	73	1/2	3	14	10 1/8	7/8	6	12	1	6 3/4

Common Flat Box

Designed as an inexpensive babbitted bearing, light in weight but strongly built.

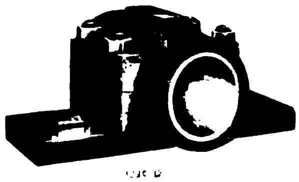


For List Price—See Price List Bulletin

Dia. Shaft	Pattern Numbers: Base	Cap	Oil Lid	Approx. Weight Lbs.	Dimensions in Inches: A	B	C	D	E	F	G	J	K	L
15/16	25735	25736	25797	2.5	2	1	6 1/2	1 5/8	4 3/4	1	1/2	5/8	2 1/8	3 1/4
1 3/16	25737	25738	25797	4.3	2 1/2	1 1/8	7 1/4	1 7/8	5 1/2	1	5/8	5/8	2 3/8	3 3/4
1 7/16	25739	25740	25797	5.6	3	1 3/8	8	2 1/4	6 1/8	1	5/8	3/4	2 3/4	4 1/4
1 11/16	25741	25742	25797	7.6	3 1/2	1 1/2	8 5/8	2 1/2	6 1/2	1 1/4	5/8	3/4	3 1/8	4 3/4
1 15/16	25743	25744	25798	9.6	4	1 5/8	9 3/8	2 3/4	7 1/4	1 1/4	5/8	7/8	3 3/8	5
2 3/16	25745	25746	25798	13.0	4 1/2	1 7/8	10	3	7 5/8	1 3/8	3/4	1 7/8	3 3/4	5 1/2
2 7/16	25747	25748	25798	18.0	5	2	10 3/4	3 1/4	8 1/4	1 1/2	3/4	1	4	5 3/4
2 11/16	25749	25750	25798	21.0	5 1/2	2 1/8	11 1/2	3 5/8	9	1 1/2	3/4	1	4 3/8	6 1/4
2 15/16	25751	25752	25799	26.0	6	2 3/8	12 1/8	3 7/8	9 5/8	1 1/2	3/4	1 1/8	4 3/4	6 1/2
3 7/16	25755	25756	25799	40.0	7	2 5/8	13 5/8	4 1/2	10 5/8	1 3/4	7/8	1/4	5 1/4	7 1/2

Transmission Machinery

Two Hole Rigid Pillow Blocks

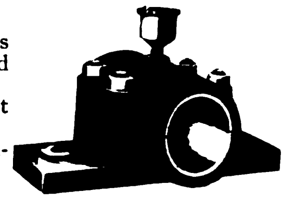


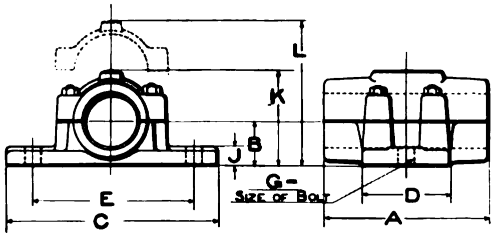
Always specify if bearings are required with plain reservoir or for grease cups; otherwise either may be furnished.

Bearings to 3¼ inches inclusive, take one cup and all others two cups.

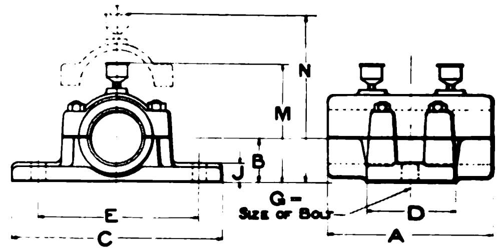
A high quality of Babbitt is used.

Ends of bearings are finished for collars.





Plain Oiling



Grease Oiling

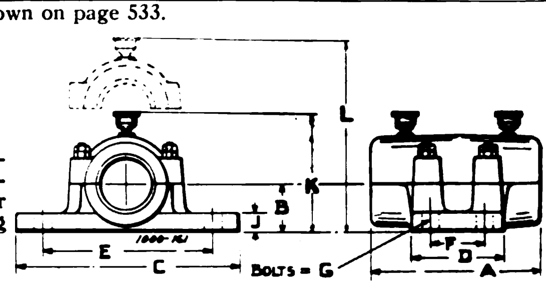
For List Price—See Price List Bulletin

Dia. Shaft In.	Plain Oiling			Grease Oiling			Approx. Weight in Lbs.		Dimensions—Inches										
	Base Pattern No.	Cap Pattern No.	Oil Cover Pattern No.	Base Pattern No.	Cap Pattern No.	Pipe Tap for Grease Cups	Plain	Grease	A	B	C	D	E	G	J	K Max	L Max	M Max	N Max
*15/16																			
1 3/16	21591	25762	25779	21591	22747	1/8	6.15	5.8	3¾	1¼	7¾	2¼	5½	5/8	¾	2 9/16	3 15/16	4 5/8	6
1 7/16	21592	25763	25780	21592	22748	¼	7.6	7.3	4½	1 7/16	8	2 5/8	6	5/8	13/16	2 15/16	4½	5½	7
1 11/16	21593	25764	25781	21593	22749	¼	10.55	10.1	5¼	1 5/8	8½	3	6½	5/8	7/8	3 5/16	5	6	7 5/8
1 15/16	21594	25765	25782	21594	22750	¼	14.7	15.3	6	1 11/16	10¼	3 3/8	7¾	5/8	7/8	3 11/16	5½	6 3/8	8 1/8
2 3/16	21595	25766	25783	21595	22751	¼	19.6	19.8	6¾	2	10 3/8	3¾	8	¾	1	4 1/8	6¼	6¾	8 7/8
2 7/16	21596	25767	25784	21596	22752	3/8	23.16	23.5	7½	2 1/8	10¾	4	8¼	¾	1 1/16	4 3/8	6 5/8	7 1/8	9 3/8
2 11/16	21597	25768	25785	21597	22753	3/8	32.	31.7	8¼	2 5/16	11½	4 3/8	8½	¾	1 1/8	4¾	6 7/8	7 7/8	10
2 15/16	21598	25769	25786	21598	22754	½	38.5	38.7	9	2½	12 1/8	4¾	9	¾	1 3/16	5 1/8	7 3/8	8 3/8	10 5/8
3 7/16	21600	25771	25788	21600	22756	3/8	57.9	56.1	10½	2 7/8	13½	5½	10	7/8	1 5/16	5 7/8	8¾	9¼	12 9/16
3 11/16	21601	25772	25789	21601	22757	3/8	67.3	70.6	11¼	3	14¼	5¾	10¾	7/8	1 3/8	6 3/16	9 1/8	9¾	12 5/8
3 15/16	21602	25773	25790	21602	22758	3/8	77.	82.0	12	3 3/16	15	6 1/8	11	7/8	1 7/16	6 9/16	9 5/8	9 7/8	13
4 7/16	21604	25775	25792	21604	22760	½	99.6	105.2	13½	3 5/8	16	6¾	12	1	1½	7 5/16	10 5/16	11¾	15
4 11/16	21605	25776	25793	21605	22761	½	114.	127.5	14½	3¾	16½	6 7/8	12¼	1 1/8	1½	7¾	10¾	12	15¼
4 15/16	21606	25777	25794	21606	22762	½	130.8	134.3	15	3¾	17¼	7¼	12½	1 1/8	1½	8 1/8	11½	12 3/8	16

*When Split Bearing is required use Common Flat Box shown on page 533.

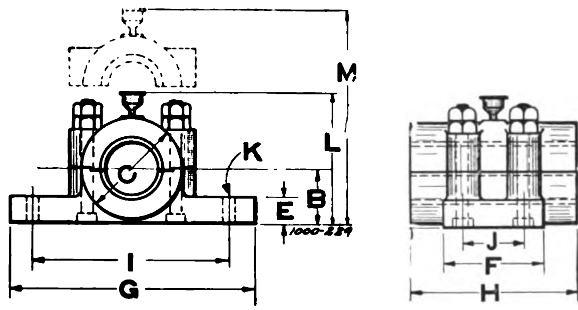
Four Hole Rigid Pillow Blocks

Slightly heavier than the ordinary transmission bearing having been designed especially for general elevating and conveying use.



Diam. Shaft Inches	Base Pattern No.	Cap Pattern No.	Approx. Weight in Lbs.	Pipe Tap for Grease Cup	Dimensions—Inches									
					A	B	C	D	E	F	G	J	K Max	L Max
1 15/16	60991	60992	18	¼	6	1¾	7¾	4	6	2½	½	7/8	5 7/8	8¼
2 3/16	60993	60994	24	¼	6¾	2	8 5/8	4¼	6¾	2½	½	1	6¼	8 7/8
2 7/16	60995	60996	28	3/8	7½	2 1/8	9½	4½	7½	2½	5/8	1 1/8	6 7/8	9 3/8
2 11/16	60997	60998	38	3/8	8¼	2 3/8	10¼	4¾	8¼	2¾	5/8	1 1/8	7¼	10½
2 15/16	61000	60999	44	½	9	2½	11¼	5¼	9	3	¾	1¼	7 7/8	11
3 7/16	61001	61002	64	3/8	10½	2 7/8	12¾	5¾	10½	3½	¾	1 3/8	8¼	11 5/8
3 15/16	61003	61004	90	3/8	12	3¼	14¾	6¾	12	4	7/8	1½	9	13
4 7/16	61005	61006	120	½	13½	3 5/8	16½	7½	13½	4½	1	1½	10	14¼
4 15/16	61007	61008	150	½	15	4	18	8	15	5	1	1 5/8	10 11/16	15¾

Extra Heavy Rigid Pillow Blocks



A very heavy rigid bearing designed for severe service where the shafting is subjected to shocks or other hard usage such as car hauls, eccentric feeders, etc.

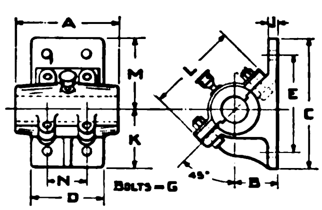
For List Price—See Price List Bulletin

Dia. Shaft	Base Pattern No.	Cap Pattern No.	Pipe Tap for Grease Cups	Approx. Weight in Lbs.	B	C	E	F	G	H	I*	J*	K*	L	M
2 7/16	29343	29344	3/8	40	2 3/8	4 1/2	1 1/8	4 1/2	11	7 1/2	8 1/2	2 3/4	13/16	7 1/4	10 3/4
2 15/16	9876	9875	1/2	57	2 15/16	5 1/8	1 1/8	5 3/4	12 1/2	9	10	3 1/8	13/16	8 1/2	12 1/4
3 7/16	9870	9869	3/8	77	3 3/16	5 5/8	1 1/8	6 1/2	14	10	11	4	15/16	8 5/8	12 5/8
3 15/15	9335	9334	3/8	137	3 1/2	7	1 3/4	8	14 1/2	12	11 1/4	5 1/2	1 1/16	9 3/4	13 7/8
4 7/16	9350	9349	1/2	184	4	8	1 3/4	9	16	13	13	6	1 3/16	11	16
4 15/16	9348	9347	1/2	237	4 3/8	8 3/4	1 7/8	10	16 3/4	14	13 1/2	7	1 5/16	12	17 1/2
5 7/16	9376	9371	1/2	292	4 13/16	9 5/8	2	10	18	15	14 3/4	7 1/2	1 5/16	13 1/4	18 3/8
5 15/16	9333	9332	1/2	342	5 1/2	9 3/4	2	12	19	16	15	8	1 5/16	13 3/4	19 7/8
6 7/16	60899	60892	1/2	374	5 7/8	10 1/2	2 1/4	12	20	16 1/2	16	8	1 5/8	14 1/2	21 7/8
6 15/16	60898	60893	1/2	509	6 1/2	11 3/8	2 3/8	13	22	17	18	8 1/2	1 5/8	15 5/8	22 7/8
7 15/16	60897	60894	1/2	870	7 1/2	15	2 3/4	13	26	17	21 1/2	8 1/2	1 5/8	18 3/8	28 1/8

*Bolt holes will be drilled to dimensions in table unless otherwise specified.

Angle Pillow Blocks

Made for head shaft use for inclined and horizontal conveyors and inclined elevators.
Two nuts provided for Cap Bolts.



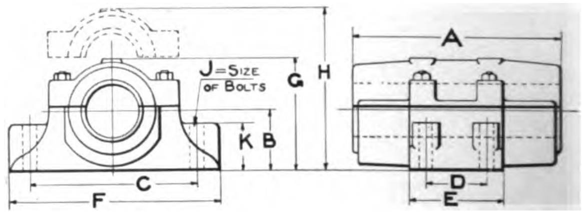
For List Price—See Price List Bulletin

Dia. Shaft In.	Base Pattern No.	Cap Pattern No.	Pipe Tap for Grease Cups	Approx. Weight in Lbs.	Dimensions—Inches										
					A	B	C	D	E	G	J	K	L	M	N
1 11/16	60523	60524	1/4	25	5 1/4	2 1/2	8 1/2	4	6 1/2	1/2	7/8	4 1/4	4	4 1/4	2 1/4
1 15/16	60525	60526	1/4	30	6	2 3/4	9 1/4	4 1/2	7 1/8	1/2	1	4 5/8	5	4 5/8	2 1/2
2 3/16	60527	60528	1/4	36	6 3/4	3	9 3/4	4 3/4	7 1/2	5/8	1	4 7/8	5	4 7/8	2 1/2
2 7/16	60529	60530	3/8	42	7 1/2	3 1/8	10 1/4	5	8 1/8	5/8	1	5 1/8	6	5 1/8	3
2 11/16	60531	60532	3/8	48	8 1/4	3 1/2	10 3/4	5 1/4	8 1/2	3/4	1 1/8	5 3/8	6 1/2	5 3/8	3
2 15/16	60533	60534	1/2	62	9	3 5/8	11 1/4	5 3/4	8 7/8	3/4	1 1/8	5 5/8	7 1/4	5 5/8	3 1/2
3 7/16	60535	60536	3/8	85	10 1/2	4	12 1/2	6 1/2	10	3/4	1 1/4	6 1/4	7 3/4	6 1/4	4
3 15/16	60537	60538	3/8	125	12	4 5/8	14	8	11 1/2	7/8	1 3/8	7	9 3/8	7	5
4 7/16	60539	60540	1/2	190	13 1/2	5 3/8	16 1/4	8 1/2	13	1	1 1/2	8 1/8	11	8 1/8	5 1/2
4 15/16	60541	60542	1/2	225	15	5 5/8	18 1/2	9 1/2	15	1	1 5/8	9 1/4	11 3/4	9 1/4	6
5 7/16	60878	60879	1/2	250	16 1/2	6 1/4	20	11	16 3/4	1 1/8	1 5/8	10	13 1/8	10	6 1/2

Transmission Machinery

Ring-Oiling Rigid Pillow Blocks

All oil supply reservoirs are of ample size to maintain a continuous flow of oil to the bearings for several months. The oil always returns, self-acting, to the reservoir without waste. The best quality of Babbitt is used and all bearings are carefully reamed out to standard size and faced off on ends.

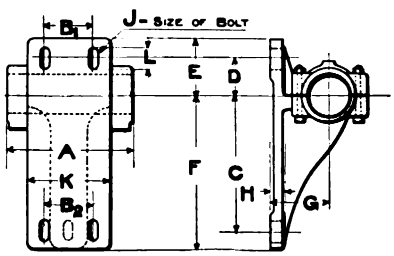


For List Price—See Price List Bulletin

Diam. Shaft Inches	Base Pattern No.	Cap Pattern No.	Inner Shell Pattern No.	Approx. Weight in Lbs.	Dimensions—Inches									
					A	B	C	D	E	F	G	H	J	K
1 3/16	24947	24948	24949	7.6	5	1 3/4	5 3/8	......	2 3/8	7	3 1/8	4 1/4	1/2	[illegible]
1 7/16	21516	21541	21566	11.1	6	2	5 7/8	......	2 5/8	7 1/2	3 5/8	5	1/2	1 5/8
1 11/16	21517	21542	21567	12.75	6 3/4	2 1/8	6 3/8	......	2 7/8	8	3 7/8	5	1/2	1 5/8
1 15/16	21518	21543	21568	17.0	7 1/2	2 1/4	6 3/4	......	3	8 5/8	4 1/8	5 3/8	5/8	1 5/8
2 3/16	21519	21544	21569	19.4	8 1/4	2 1/2	7 5/8	......	3 3/4	9 1/2	4 5/8	6	5/8	1 7/8
2 7/16	21520	21545	21570	28.6	9	2 3/4	8	......	4	10 1/4	5 1/4	6 3/4	3/4	2 1/8
2 11/16	21521	21546	21571	33.2	9 7/8	3	8 3/4	......	4 1/8	11	5 1/2	7 1/8	3/4	2 3/8
2 15/16	21522	21547	21572	40.4	10 5/8	3	9 1/8	......	4 1/2	11 3/4	5 3/4	7 5/8	7/8	2 1/2
3 7/16	21524	21549	21574	62.75	12	3 1/2	10 1/2	......	5 1/8	13 1/4	6 5/8	8 5/8	7/8	3
3 11/16	21525	21550	21575	76	12 3/4	3 3/4	11 1/8	......	5 1/2	14	7 1/8	9 1/8	7/8	3 1/8
3 15/16	21526	21551	21576	81.8	13 1/2	4	11 1/2	.....	6	14 1/2	7 5/8	9 5/8	7/8	3 1/4
4 7/16	21527	21552	21577	141.8	15	4 1/2	12 1/4	4 1/2	7	15 1/2	8 1/4	10 3/4	1	3 1/2
4 15/16	21529	21554	21579	185.8	16 1/2	5	13 5/8	4 3/4	7 3/4	17	9 1/8	12	1	3 3/4
5 7/16	24953	24954	24955	240	18 1/4	5 1/2	15	5	8 1/2	18 1/2	9 3/4	12 3/4	1	4

Plain-Oiling Post Bearings

4 Bolt Base for 3 7/16" to 5" Shafts



3 Bolt Base for 15/16" to 3 1/16" Shafts

Made for any service, for supporting line shafting to posts.

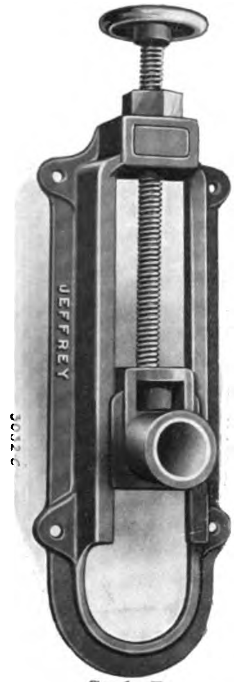
For List Price—See Price List Bulletin

Dia. Shaft In.	Base Pattern No.	Cap Pattern No.	Oil Cover Pattern No.	Approx. Weight in Lbs.	Dimensions—Inches											
					A	B1	B2	C	D	E	F	G	H	J	K	L
15/16	25102	25762	25779	11.8	3 3/4	1 3/4	......	5 7/16	1 9/16	3	6 7/8	6	9/16	1/2	3 1/2	1 1/4
1 3/16	25102	25762	25779	11	3 3/4	1 3/4	......	5 7/16	1 9/16	3	6 7/8	6	9/16	1/2	3 1/2	1 1/4
1 7/16	21954	25763	25780	13.7	4 1/2	2	......	6 3/8	1 3/4	3 1/4	7 7/8	6	5/8	1/2	4	1 1/4
1 11/16	21955	25764	25781	17.3	5 1/4	2 3/8	......	7 1/16	2 1/16	3 3/4	8 3/4	6	11/16	1/2	4 3/8	1 1/2
1 15/16	24469	25765	25782	25.9	6	2 3/4	......	8	2 1/4	4	9 3/4	6	3/4	5/8	4 7/8	1 3/4
2 3/16	21956	25766	25783	29.7	6 3/4	3 1/8	......	8 3/4	2 5/8	4 1/2	10 5/8	6	13/16	5/8	5 3/8	2
2 7/16	21957	25767	25784	34.7	7 1/2	3 1/2	......	9 11/16	2 11/16	4 5/8	11 5/8	6	7/8	3/4	5 3/4	2 1/4
2 11/16	21958	25768	25785	46.6	8 1/4	3 3/4	......	10 7/16	3 1/16	5 1/8	12 1/2	6	15/16	3/4	6 1/4	2 1/4
2 15/16	21959	25769	25786	59.4	9	4 1/8	......	11 5/16	3 3/16	5 3/8	13 1/2	6	1	3/4	6 3/4	2 1/2
3 7/16	24470	25771	25788	102.2	10 1/2	4 1/2	4 1/2	13 5/8	3 5/8	6	16	6	7/8	3/4	8 1/2	2 1/4
3 15/16	21960	25773	25790	144.2	12	5 1/2	5 1/2	14 1/8	4 1/8	7	17	6	1	1	10 1/8	2 3/4
4 7/16	21961	25775	25792	178	13 1/2	6	6	15 1/8	3 1/8	6	18	6	1	1	11	2 3/4
4 15/16	21962	25777	25794	208	15	6	6	15 1/2	4 1/2	6 3/4	18 1/4	6 1/2	1 3/8	1 1/8	11	2 7/8

Adjustable Take-Up Boxes

Styles B and C

(For Style A, See Page 539)

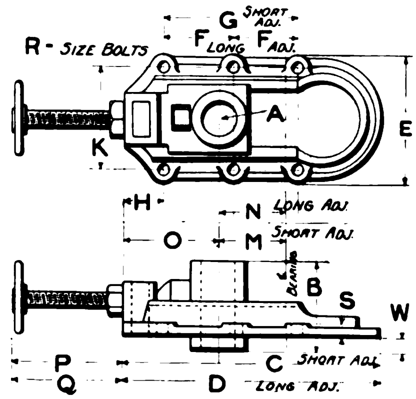


Style B

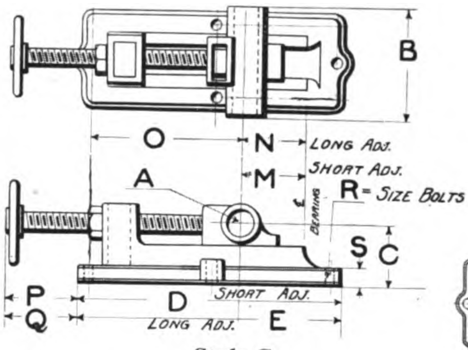
Adjustable bearings are unquestionably the simplest and best means of securing initial tension and of taking up all wear in every form of elevator and conveyor.

Take-ups are made so as to be easily applied to either wood or steel construction with bearings free for lubrication and with adjusting screws accessible.

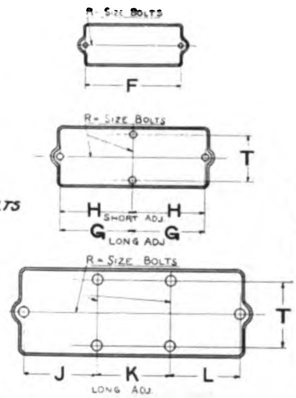
The amount of adjustment is made consistent with shaft sizes and is sufficient to permit the removal of at least one pitch or link of chain with an extra amount for initial adjustment.



Style B



Style C



Style C

Dimensions in Inches of Style B Take-Ups
For List Price—See Price List Bulletin

Shaft Dia. A In.	Bearing Pattern No.	Frame Pattern No.	Approx. Weight in Lbs. Short Adj.	Approx. Weight in Lbs. Long Adj.	Adjustment M*	Adjustment N	B	C	D	E	F	G	H	K	O	P	Q	R	S	W
†15/16	17 A	17 A	10	....	4½	....	3	13	....	3 13/16	....	11¾	⅝	†	4¼	4½	....	½	½	0
1 3/16	17 B	17 B & C	21	....	8	....	4	17 1/16	....	6¾	....	10¾	2	5⅛	4 1/16	10⅜	....	½	7/16	¼
1 7/16	17 C	17 B & C	23	....	8	....	4½	17 1/16	....	6¾	....	10¾	2	5⅛	4 1/16	10⅜	....	½	7/16	½
1 11/16	17 D	17 D & E	30	39	10	19½	5½	21 1/16	29 11/16	7¾	11¼	13 3/16	2 3/16	6¼	4¾	12½	21½	½	½	1
1 15/16	17 E	17 D & E	32	41	9½	19	6	21 1/16	29 11/16	7¾	11¼	13 3/16	2 3/16	6¼	4 13/16	12½	21½	½	½	1¼
2 3/16	17 F	17 F & G	48	59	11	21	6½	24½	33⅛	9½	12 3/16	15¾	2⅝	7¼	6	14¼	22¼	⅝	9/16	1½
2 7/16	17 G	17 F & G	48	60	11	21	7	24½	33⅛	9½	12 3/16	15¾	2⅝	7¼	6⅛	14¼	22¼	⅝	9/16	1¾
2 11/16	17 H	17 H & I	60	74	13	25	7½	28 15/16	41 3/16	10⅜	15¼	18	2¾	8¾	6 3/16	16	28	⅝	9/16	1¾
2 15/16	17 I	17 H & I	72	76	14	25	8	28 15/16	41 3/16	10⅜	15¼	18	2¾	8¾	6 1/16	16	28	⅝	9/16	2
3 7/16	17 K	17 J & K	97	125	13	30	9	31⅛	47 11/16	11¾	18¼	20	2⅝	9⅞	7 3/16	15½	33	¾	11/16	2½
3 11/16	17 L	17 L & M	109	158	16½	36½	9½	35⅞	56½	11¼	21⅞	23¾	3⅛	10¾	8	20	38	¾	11/16	2¼
3 15/16	17 M	17 L & M	144	152	17	37	10	35⅞	56½	11¼	21⅞	23¾	3⅛	10¾	8 3/16	20	38	¾	11/16	2½

*A Short Adjustment furnished unless otherwise specified.
†Frame is not as shown; has but two holes in base, one in each end.

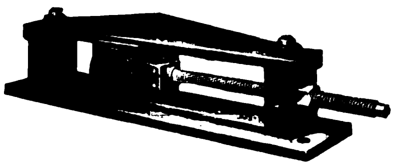
Dimensions in Inches of Style C Take-Ups
For List Price—See Price List Bulletin

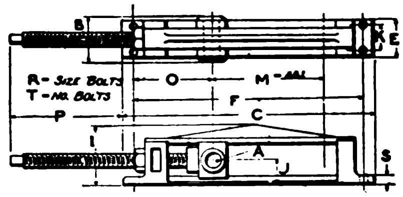
Shaft Dia. A In.	Bearing Pattern No.	Frame Pattern No.	Approx. Weight in Lbs. Short Adj.	Approx. Weight in Lbs. Long Adj.	Adjustment * M Short	Adjustment N Long	B	C	D	E	F	G	H	J	K	L	O	P	Q	R	S	T
15/16	16 A	16A	10	....	4½	....	3	2 9/16	13	....	11¾	....	....	....	....	....	3½	4¾	....	½	½	....
1 3/16	16 B	16B&C	21	....	8	....	4	3⅛	17⅜	....	....	....	8 1/16	....	....	....	5	9¾	....	½	5/16	3½
1 7/16	16 C	16B&C	23	....	8	....	4½	3⅛	17⅜	....	....	....	8 1/16	....	....	....	5	9¾	....	½	5/16	3½
1 11/16	16 D	16D&E	30	39	10	19½	5½	3½	20½	29	....	13⅞	9⅝	....	....	....	....	10¾	19¾	½	⅜	4⅛
1 15/16	16 E	16D&E	32	41	9½	19	6	3½	20½	29	....	13⅞	9⅝	....	....	....	....	10¾	19¾	½	⅜	4⅛
2 3/16	16 F	16F&G	48	59	11	21	6½	4	24	33¼	....	15⅝	11⅛	....	....	....	6⅞	12½	21½	⅝	7/16	4¾
2 7/16	16 G	16F&G	49	60	11	21	7	4	24	33¼	....	15⅝	11⅛	....	....	....	7	12½	21½	⅝	7/16	4¾
2 11/16	16 H	16H&I	60	75	12	18	7½	4½	26¾	34¼	....	....	12⅝	11	11	11	7⅜	14	20	⅝	7/16	5⅛
2 15/16	16 I	16H&I	72	87	12	18	8	4½	26¾	34¼	....	....	12⅝	11	11	11	7½	14	20	⅝	7/16	5⅛
3 7/16	16 K	16J&K	97	125	13	30	9	5 1/16	30⅝	47⅛	....	22⅜	14 5/16	....	....	....	8¾	16¼	32	¾	½	5⅞
3 11/16	16 L	16L&M	109	158	16½	36	9½	5¾	33½	54¼	....	....	15½	15⅛	24 9/16	13⅛	9	17½	37½	¾	9/16	6½
3 15/16	16 M	16L&M	144	152	17	37	10	5¾	33½	54¼	....	....	15½	15⅛	24 9/16	13⅛	9½	17½	37½	¾	9/16	6½

*Short Adjustment furnished unless otherwise specified.

Transmission Machinery

Style "D" Adjustable Take-Up Boxes





For List Price—See Price List Bulletin

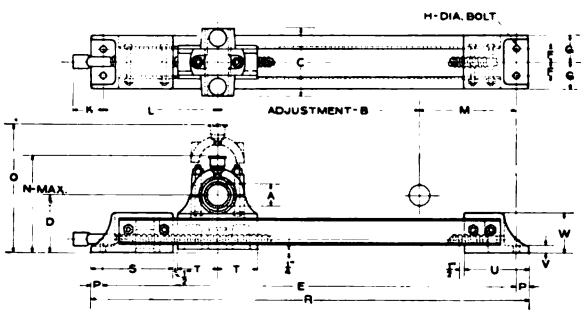
Diam. Shaft Inches A	Bearing Pattern Number	Frame Pattern Number	Gib Pattern Number	Adj. M*†	Pipe Tap for Grease Cups	Approx. Weight in Pounds	Dimensions—Inches B	C	E	F	I	J	K	O	P	R	S	T
1 7/16	16087	3978	16086	11¾	¼	48	5	23¼	3½	21¼	5¾	2 9/32	......	5 7/16	11⅞	⅝	¾	2
1 15/16	16095	3969	16094	12	¼	78	5½	26¾	3½	23¾	7 1/16	2 25/32	......	6⅝	11¾	¾	1	2
1 15/16	16095	5906	16130	18	¼	90	5½	32¾	3½	29¾	7 1/16	2 25/32	......	6⅝	17 11/16	¾	1	2
2 3/16	16145	4621	16144	14	¼	95	6	28 15/16	4	25 15/16	7⅜	2 15/16	......	6 11/16	13½	⅝	1	2
2 3/16	16145	4619	16143	20	¼	103	6	34 15/16	4	31 15/16	7⅜	2 15/16	......	6 11/16	19½	⅝	1	2
2 7/16	16132	3974	16131	15	¼	100	6½	30⅜	4	27⅜	8¼	3⅛	......	6⅞	14 3/16	¾	1	2
2 7/16	16132	4965	16075	20	¼	110	6½	35⅜	4	32⅜	8¼	3⅛	......	6⅞	19 3/16	¾	1	2
2 11/16	4448	3984	16174	11	¼	162	7½	26¼	6	24¼	9⅞	4	4	7 5/16	11¾	⅝	⅞	4
2 11/16	4448	4025	16137	22¾	¼	214	7½	39	6	37	10⅛	4	4	8 5/16	23 5/16	⅝	⅞	4
2 15/16	16138	3984	16174	10½	¼	178	8	26¼	6	24¼	9⅞	4	4	7 13/16	11¼	⅝	⅞	4
2 15/16	16138	4025	16137	22¼	¼	228	8	39	6	37	10⅛	4	4	8 13/16	22 15/16	⅝	⅞	4
3 7/16	16147	3988	16146	15¼	⅜	255	9½	34¾	6	31¾	11 9/16	5 1/32	3¾	9⅞	16	⅞	2	4
3 7/16	16147	5170	15849	29¾	⅜	353	9½	50¾	6	47¾	12 5/16	5 5/32	3¾	10⅝	29⅝	⅞	2⅛	4
3 15/16	16162	4057	16161	15¼	⅜	290	10	35¾	6	32¾	11 13/16	5 5/32	3	10¾	15½	¾	2	4
3 15/16	16162	8040	16163	35¾	⅜	475	10	58¼	6	55¼	12 15/16	5 9/32	3¾	11⅜	36¼	⅞	2¼	5
4 7/16	16165	12192	16164	12¼	½	425	10½	37	7	33½	13⅞	6 1/16	4	13	10⅞	1	2½	4
4 7/16	16165	4006	16166	24¼	½	500	10½	49	7	45½	13⅞	6 1/16	4	13	22⅞	1	2½	4

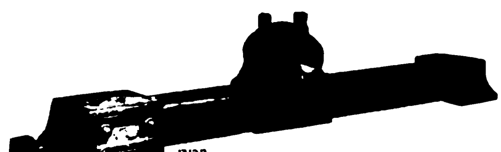
*Short Adjustment furnished unless otherwise specified.

†For larger shafts or longer adjustment use Ball and Socket Take-Ups shown below.

Style "DD" Ball and Socket Take-Ups

With Grease Oiling Bearing





Style "DD" or Channel Iron Take-Up adapted to Long Belt Conveyors

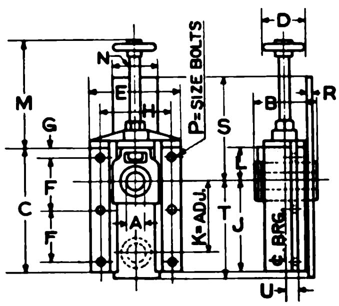
Style DD Ball and Socket Type makes practically impossible the binding of the shaft by uneven alignment or unequal adjustment of a pair of the Take-ups.

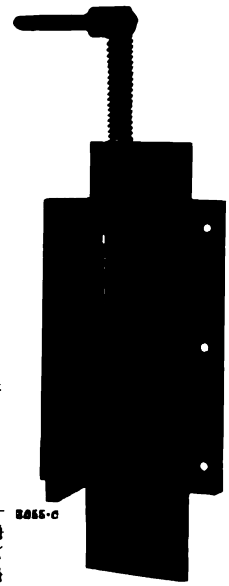
For List Price—See Price List Bulletin

Size Shaft In. A	* Standard Adj. B	C	D	E	F	G	H	K	L	M	N	O	P	R	S	T	U	V	W	Pattern Numbers: Sliding Base	Cap for Base	Lower Half of Brg.	Upper Half of Brg.	Foot End Brg.	Head End Brg.	Pipe Tap for Grease Cup	Approx. Wt. Lbs. Complete
2 7/16	24″	7½	6½	47¾	1½	3	⅝	3½	12⅞	10⅞	10¾	14⅛	1⅜	50½	9¼	4½	7¼	¾	4½	62360	5747	5748	5749	62362	62361	¼	**160**
2 15/16	24″	9	8⅝	53⅝	1¾	3⅝	⅞	4½	15⅞	13¾	13½	17½	1¾	57⅛	11⅝	5½	9½	¾	5 11/16	62363	5861	5862	5863	62365	62364	⅜	**250**
3 7/16	24″	10	9 3/16	53⅝	1¾	3⅝	⅞	4½	15⅞	13¾	14 9/16	18 13/16	1¾	57⅛	11⅝	5½	9½	¾	5 11/16	62366	9225	9226	9227	62365	62364	⅜	**300**
3 15/16	24″	12	12	56⅛	2¾	5	⅞	4⅝	17⅛	15	17⅞	23¼	1¾	59⅝	11⅝	6¾	9½	1	8¼	62581	9342	9343	9344	62369	62368	½	**490**
4 7/16	36″	13½	12¼	68⅝	2¾	5	⅞	4⅝	17⅜	15¼	18¾	24⅝	1¾	72⅛	11⅝	7	9½	1	8¼	62367	9338	9339	9340	62369	62368	½	**560**
4 15/16	36″	15	12⅝	69⅝	2¾	5	⅞	4⅝	17⅞	15¾	19½	26	1¾	73⅛	11⅝	7½	9½	1	8¼	62370	9352	9353	9354	62369	62368	½	**620**

*The Adjustments "B" in talbe are standard, but may be increased to suit requirements.

Elevator Boot Take-Up Bearings—Style A




8655-C
Style A Take-up

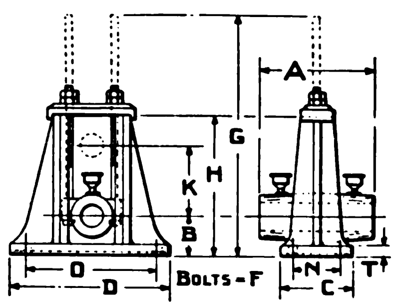
For List Price—See Price List Bulletin

Kind of Boot	A Shaft Dia.	Frame Pattern No.	Bearing Pattern No.	Approx. Weight in Lbs.	B	C	D	E	F	G	H	J	K Adj.	L	M	N	P	R	S	T	U
	1 7/16	8096	8097	21	2 3/4	8 5/8	4 1/4	6 1/2	3 1/4	1	5	6 3/8	5	2 1/4	11 1/8	3 1/8	3/8	3/8	6 5/8	5 5/8	15/16
For Wood	1 15/16	4307	4308	39	4 1/4	9 3/4	4 1/4	8 1/2	3 7/8	1	6 3/16	6 1/16	5	3 1/16	10 1/2	3 3/4	1/2	1/2	7 15/16	6 3/16	3/4
	2 3/16	4856	3235	47	5	13	5	9	5 1/2	1	7	9 5/8	7 1/2	3 3/8	13 3/8	5	1/2	1/2	10 1/2	8 1/2	15/16
Boots	2 7/16	3315	3314	58	5	14 1/2	5	9	6	1 1/4	7	11	9	3 1/2	13 3/4	5	1/2	1/2	12 5/8	10 3/8	3/4
	2 15/16	3351	3352	86	6	18	5	10	7 1/2	1 1/2	7 3/4	14 1/8	12	3 7/8	16 3/8	5 1/2	5/8	1/2	16 1/2	14 1/8	9/16
	1 7/16	4012	4014	34	4 1/4	10 1/2	4 1/4	7 3/4	4 1/4	1	6	7 7/8	6	2 5/8	10 7/8	4 1/4	3/8	3/8	9	7 7/8	1
For Steel	1 15/16	4012	4013	38	4 1/4	10 1/2	4 1/4	7 3/4	4 1/4	1	6	7 3/4	6	2 3/4	10 7/8	4 1/4	3/8	3/8	8 3/4	7 3/4	1
	1 15/16	3236	3522	58	5	13	4 1/4	9	5 1/2	1	7	9 3/4	8	3 1/4	13 1/2	5	1/2	1/2	10 1/2	8 1/2	1 1/16
Boots	2 3/16	3236	3235	58	6 3/8	13	5	9	5 1/2	3/4	7	9 3/8	7 1/2	3 5/8	13 1/2	5	1/2	1/2	11	10	2
	2 7/16	9113	9115	75	6 3/4	14 1/2	5	9	6	1 1/4	7	11	9	3 1/2	13 1/2	5	1/2	1/2	12 5/8	10 3/8	2
	2 15/16	3464	3352	85	6	18	5	10	7 1/2	1 1/2	7 3/4	14 1/8	12	3 7/8	16 3/8	5 1/2	5/8	1/2	16 1/2	14 1/8	1 3/16

Style G Take-Up


9227

The Style G is a head take-up designed for heavy duty such as is required in very large or high elevators.



For List Price—See Price List Bulletin

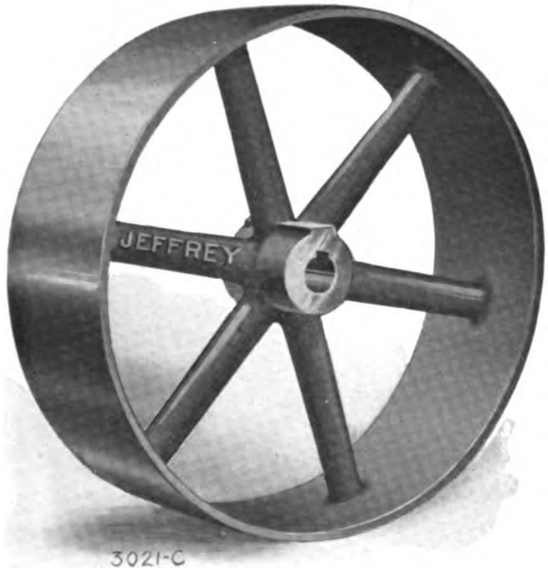
Shaft	K Adj.	Approx. Weight in Lbs.	Frame Pattern No.	Gib Pattern No.	Bearing Pattern No.	Pipe Tap for Grease Cups	Dimensions—Inches									
							A	B	C	D	F	G	H	N	O	T
1 15/16	7 1/4	74	60415	60416	60418	1/4	6 1/4	3	5 1/2	16	3/4	22 1/2	12 1/4	3	13 1/2	1
2 7/16	6 1/2	84	60415	60416	60417	1/4	8 1/4	3 5/8	5 1/2	16	3/4	21 3/4	12 1/4	3	13 1/2	1
2 15/16	8 9/16	184	60439	60440	60441	3/8	9 1/4	3 11/16	6 1/2	18 1/2	3/4	26 7/8	15 1/8	3 3/4	14 1/4	1 1/8
3 7/16	8	198	60439	60440	60442	3/8	10 3/4	4 1/8	6 1/2	18 1/2	3/4	26 1/4	15 1/8	3 3/4	14 1/4	1 1/8
3 15/16	11 3/4	232	60447	60448	60449	1/2	12 1/2	4 1/2	7 1/2	21	7/8	35	19 5/8	4	16 1/2	1 1/8

Transmission Machinery

Cast Iron Pulleys

Solid or Split

Machine Moulded, Turned, Balanced, Bored and Keyseated or Set Screwed



Single Arm Pulley

These pulleys, while embodying all the qualities of machining as noted above, are designed not only along theoretical lines to meet the strains of driving, but are also designed along those practical lines which long experience has dictated for rough and exact service.

NOTE: (1) Pulleys can be furnished Keyseated, fitted with Set Screws or both.

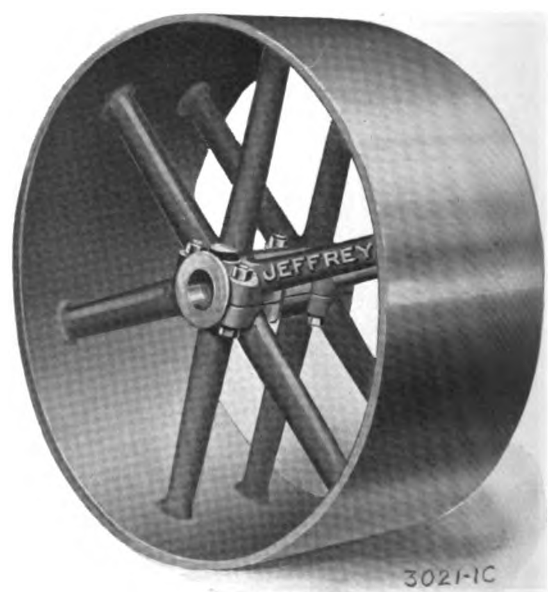
(2) Crowned Face furnished unless otherwise specified.

(3) All Pulleys are balanced for rim speeds up to 2500 Feet per minute. Speeds above 2500 and under 5,000 require special balancing and must be so specified.

(4) Special Hub lengths to be specified relative to center line of Pulley.

(5) For Tight and Loose Pulleys, see page 542.

For dimensions of Standard Hubs, Keyseating and Set Screws for Single Arm Pulleys, see page 456.



Double Arm Pulley

Jeffrey Transmission Belting

This Rubber Belt is especially constructed for Power Transmission Service; made in 3, 4, 5 and 6 ply in 2″, 3″, 4″ and 5″ up to 16″ and 18″, 20″, 22″, 24″ etc. up to 50″ widths.

Double Belt Single Arm Solid and Split Iron Pulleys

For Prices—See Price List Bulletin

Diam. in Inches	Max. Standard Bore	Face in Inches—Weight, Lbs.																					
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
6	$1\frac{15}{16}$	13	15	17	20	23	26	29	32														
7	$1\frac{15}{16}$	15	17	20	23	26	29	32	35														
8	$1\frac{15}{16}$	17	20	23	26	29	32	36	40	44	48												
9	$1\frac{15}{16}$	18	22	25	29	32	36	40	45	49	54												
10	$2\frac{7}{16}$	20	24	28	32	36	40	45	50	55	60												
11	$2\frac{7}{16}$	22	27	31	35	40	44	50	55	61	66												
12	$2\frac{7}{16}$	24	29	34	39	44	49	55	61	67	72	78	84										
13	$2\frac{7}{16}$	27	32	37	43	48	54	60	67	73	79	85	92										
14	$2\frac{7}{16}$	29	35	41	47	53	59	66	73	79	86	93	100										
15	$2\frac{7}{16}$	31	38	44	51	57	64	72	79	86	94	101	109										
16	$2\frac{15}{16}$	34	41	48	56	62	70	78	86	94	102	110	118	126	134								
17	$2\frac{15}{16}$	37	44	52	59	68	76	84	93	101	110	118	127	135	144								
18	$2\frac{15}{16}$	40	48	56	64	73	82	91	100	109	118	127	136	145	155								
19	$2\frac{15}{16}$	43	52	61	70	79	88	98	108	118	128	138	148	158	169	179	190						
20	$2\frac{15}{16}$	46	56	66	76	86	95	106	117	128	139	150	161	172	183	194	205						
21	$3\frac{7}{16}$	49	60	70	81	91	102	113	124	135	146	157	168	180	191	203	214						
22	$3\frac{7}{16}$	53	64	75	86	97	109	120	131	142	153	164	176	188	200	212	224						
23	$3\frac{7}{16}$	56	68	80	92	104	116	128	140	152	164	176	189	201	214	227	240						
24	$3\frac{7}{16}$	60	73	86	99	112	124	137	150	163	176	189	202	215	228	242	256	270	284				
26	$3\frac{7}{16}$	68	82	96	110	125	140	155	170	185	200	215	230	246	262	278	294	310	326				
28	$3\frac{7}{16}$	76	92	108	124	140	157	174	191	208	225	242	259	276	294	312	330	348	366				
30	$3\frac{7}{16}$	85	103	121	139	157	175	193	211	229	247	265	283	302	321	340	359	378	397	416	435		
32	$3\frac{15}{16}$	94	114	134	154	174	194	214	234	254	274	294	314	335	356	377	398	419	440	461	482		
34	$3\frac{15}{16}$	104	126	148	170	192	214	236	258	280	302	324	346	369	392	415	438	461	484	507	530		
36	$3\frac{15}{16}$	115	138	162	186	210	234	258	282	306	330	354	378	403	428	453	478	503	528	553	578		
38	$3\frac{15}{16}$		152	177	203	229	255	281	307	333	359	385	411	438	465	492	519	546	573	600	627	654	681
40	$3\frac{15}{16}$		167	194	221	249	277	305	333	361	389	417	445	473	502	531	560	589	618	647	676	705	734
42	$3\frac{15}{16}$		183	212	241	270	300	330	360	390	420	450	480	510	540	571	602	633	664	695	726	757	788
44	$4\frac{7}{16}$		199	230	261	292	324	356	388	420	452	484	516	549	582	615	648	681	714	747	780	813	846
46	$4\frac{7}{16}$		216	249	282	315	349	383	417	451	486	521	556	591	626	661	696	731	767	803	839	875	911
48	$4\frac{7}{16}$		235	270	305	340	375	411	447	483	519	555	592	629	666	703	740	778	816	854	892	930	969
50	$4\frac{15}{16}$		254	291	328	365	402	440	478	516	554	592	631	670	709	748	787	827	867	907	947	987	1027
52	$4\frac{15}{16}$		273	312	351	390	430	470	510	550	590	631	672	713	754	795	837	879	921	963	1005	1045	1087
54	$4\frac{15}{16}$		292	333	375	417	459	501	543	585	627	670	713	756	799	842	885	929	973	1017	1061	1105	1149
56	$4\frac{15}{16}$		313	357	401	445	489	534	579	624	669	714	759	804	842	894	939	984	1029	1074	1120	1166	1213
58	$4\frac{15}{16}$		333	379	425	472	519	566	613	660	707	754	801	848	895	942	989	1036	1084	1132	1181	1230	1279
60	$4\frac{15}{16}$		354	403	452	501	550	600	650	700	750	801	852	903	954	1006	1058	1110	1162	1215	1268	1321	1374

Weights listed are for Pulleys with Hubs for Max. Standard Bores.

Transmission Machinery

Solid Double Arm Pulleys for Belt Conveyor Service

Diam. Inches	Max. Standard Bore	Face in Inches—Weight, Lbs.									
		16	18	20	22	24	26	32	38	44	50
12	$2\frac{7}{16}$	140	150	151	171	182	192	224	255	287	318
14	$2\frac{15}{16}$	155	166	177	188	199	210	243	276	309	342
16	$2\frac{15}{16}$		202	216	230	244	238	272	314	356	398
18	$3\frac{7}{16}$		250	266	282	278	314	362	410	558	606
20	$3\frac{15}{16}$			335	355	375	395	455	515	575	635
22	$3\frac{15}{16}$			358	380	402	424	490	556	622	688
24	$4\frac{7}{16}$				439	463	487	559	631	703	775
26	$4\frac{7}{16}$				459	483	507	579	651	723	795
28	$4\frac{15}{16}$				500	525	550	625	700	775	850
30	$4\frac{15}{16}$					566	593	674	755	836	917
32	$4\frac{15}{16}$					611	640	727	814	901	988
34	$4\frac{15}{16}$					705	739	841	943	945	1047
36	$5\frac{7}{16}$					809	845	953	1061	1169	1277
38	$5\frac{7}{16}$					845	883	997	1111	1225	1339
42	$5\frac{7}{16}$					980	1030	1180	1330	1480	1630
48	$5\frac{15}{16}$					1314	1372	1546	1720	1894	2068

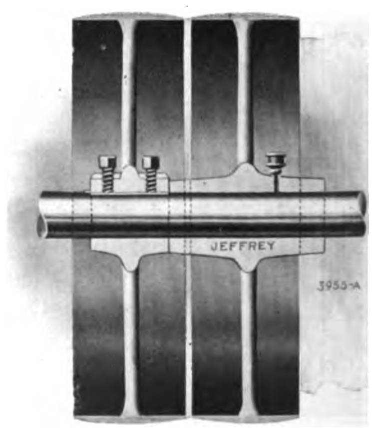
Hubs for double arm pulleys have a diameter equal to that given in Hub Table on page 456; the standard length of each hub is equal to the bore + 2″.

Pulleys can be furnished Bored, Turned, Keyseated and with Set Screws over Keyseats when so specified.

Information on Pulleys with Rubber Cover for head of Belt Conveyors will be given on application.

Pulleys can be furnished split at a small additional cost.

Tight and Loose Pulleys



The hubs of our Tight and Loose Pulleys are faced so as to keep the rims from rubbing. When Loose Pulleys are intended for heavy strains or high speeds, we recommend having oil chambers in centers of hubs or their being fitted with self-oiling bushings.

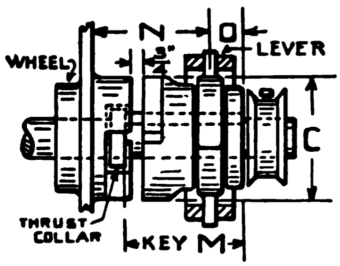
Transmission Machinery

Jaw Clutches and Couplings

Spiral Jaw Left Hand*

Square Jaw Clutch

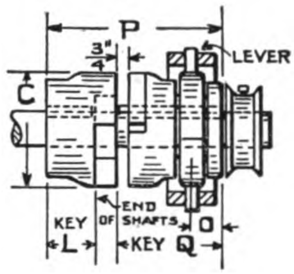
Spiral Jaw Right Hand*



Square Jaw Clutch applied to wheel with clutch. Jaw hub on one side and standard hub on other side.

*Arrows indicate direction of rotation for both R. H. and L. H for Spiral Clutches where the "Sliding Halves" drive the "Stationary Halves." Rotation is in the opposite direction from that shown where "Stationary Halves" drive the "Sliding Halves."

For List Price—See Price List Bulletin



Square Jaw Clutch Coupling

Dimensions of No. 2 Square or Spiral Jaw Clutches

Order by Diam. Shaft	General Dimensions—Inches								
	C	O	M	N		L	Q	P	
				Disengaged as Shown	Fully Engaged			Disengaged as Shown	Fully Engaged
$\frac{15}{16}$	$3\frac{11}{16}$	$1\frac{1}{8}$	$3\frac{3}{4}$	$4\frac{1}{8}$	$2\frac{3}{4}$	$2\frac{3}{4}$	$3\frac{5}{8}$	$7\frac{1}{2}$	$6\frac{1}{8}$
$1\frac{3}{16}$	$4\frac{1}{16}$	$1\frac{3}{16}$	$4\frac{9}{16}$	$4\frac{1}{2}$	3	$2\frac{13}{16}$	$4\frac{5}{16}$	$7\frac{7}{8}$	$6\frac{3}{8}$
$1\frac{7}{16}$	$4\frac{9}{16}$	$1\frac{1}{4}$	$4\frac{7}{8}$	5	$3\frac{3}{8}$	3	$4\frac{5}{8}$	$8\frac{1}{2}$	$6\frac{7}{8}$
$1\frac{11}{16}$	$5\frac{1}{6}$	$1\frac{1}{4}$	5	$5\frac{1}{4}$	$3\frac{5}{8}$	$3\frac{1}{4}$	$4\frac{7}{8}$	9	$7\frac{3}{8}$
$1\frac{15}{16}$	$5\frac{11}{16}$	$1\frac{5}{16}$	$5\frac{3}{8}$	$5\frac{11}{16}$	$4\frac{1}{16}$	$3\frac{5}{8}$	$5\frac{1}{4}$	$9\frac{3}{4}$	$8\frac{1}{8}$
$2\frac{3}{16}$	$6\frac{3}{16}$	$1\frac{7}{16}$	$5\frac{15}{16}$	$6\frac{1}{4}$	$4\frac{1}{2}$	$3\frac{15}{16}$	$5\frac{11}{16}$	$10\frac{5}{8}$	$8\frac{7}{8}$
$2\frac{7}{16}$	$6\frac{11}{16}$	$1\frac{5}{8}$	$6\frac{1}{2}$	$6\frac{3}{4}$	$4\frac{7}{8}$	$4\frac{1}{4}$	$6\frac{1}{8}$	$11\frac{1}{2}$	$9\frac{5}{8}$
$2\frac{11}{16}$	$7\frac{5}{16}$	$1\frac{3}{4}$	$6\frac{7}{8}$	$7\frac{1}{4}$	$5\frac{1}{4}$	$4\frac{1}{2}$	$6\frac{1}{2}$	$12\frac{1}{4}$	$10\frac{1}{4}$
$2\frac{15}{16}$	$7\frac{15}{16}$	$1\frac{15}{16}$	$7\frac{15}{16}$	$7\frac{3}{4}$	$5\frac{5}{8}$	$4\frac{13}{16}$	$6\frac{15}{16}$	$13\frac{1}{8}$	11
$3\frac{7}{16}$	$8\frac{15}{16}$	$2\frac{1}{8}$	$7\frac{7}{8}$	$8\frac{5}{8}$	$6\frac{1}{4}$	$5\frac{1}{8}$	$7\frac{1}{2}$	$14\frac{1}{4}$	$11\frac{7}{8}$
$3\frac{15}{16}$	$9\frac{3}{4}$	$2\frac{1}{4}$	$9\frac{1}{4}$	$10\frac{1}{4}$	$7\frac{5}{8}$	$6\frac{1}{4}$	$8\frac{7}{8}$	17	$14\frac{3}{8}$
$4\frac{7}{16}$	$10\frac{1}{2}$	$2\frac{3}{8}$	$9\frac{1}{2}$	$10\frac{5}{8}$	$7\frac{7}{8}$	$6\frac{1}{2}$	$9\frac{1}{4}$	$17\frac{3}{4}$	15

Square Jaw Clutches are furnished when kind is not specified.

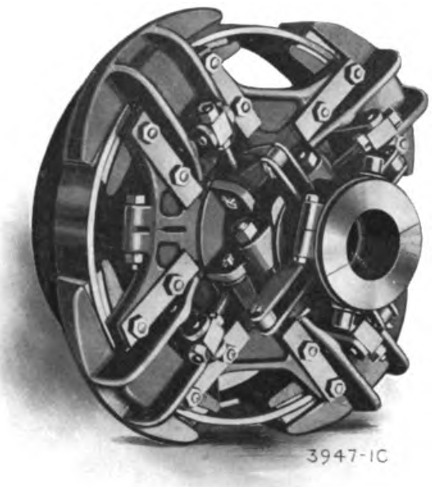
Levers for Square or Spiral Jaw Clutches

For List Price—See Price List Bulletin

Clutch Shaft Sizes	Size of Pipe	Hand Lever Extension for Jaw Type Clutches—Std. Lgth. Feet	Pattern No.
$\frac{15}{16}$–$1\frac{3}{16}$	1	$2\frac{1}{2}$	61920
$1\frac{7}{16}$–$1\frac{11}{16}$–$1\frac{15}{16}$	1	$2\frac{1}{2}$	61921
$2\frac{3}{16}$–$2\frac{7}{16}$–$2\frac{11}{16}$	$1\frac{1}{4}$	3	61922
$2\frac{15}{16}$–$3\frac{7}{16}$	$1\frac{1}{4}$	3	61923
$3\frac{11}{16}$–$3\frac{15}{16}$–$4\frac{7}{16}$	$1\frac{1}{4}$	$3\frac{1}{2}$	61924

Transmission Machinery

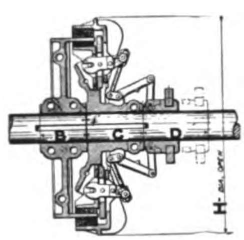
Friction Cut-Off Couplings—Hill Type



THIS Cut-off Coupling is of the same design as the Hill Type Friction clutch, the ring being connected to the driving or driven shaft, instead of sleeve or pulley. When possible the clutch mechanism should be mounted upon driven shaft to insure easy adjustment without shutting down.

Shaft bearings should be placed as close as possible to each side of coupling.

For List Price—See Price List Bulletin



No. and H. P. of Clutch †at 100 R. P. M.	Equivalent Shaft Diam.	Max. Standard Bore	Largest Bore at extra Charge	Dimensions—Inches			
				B	C	D	H
9	1 3/16	2 3/4	3 1/2	3	4 1/8	5	15
12	1 15/16	3	4	3 1/2	4 3/4	5 1/4	17 1/2
15	2 3/16	3 1/4	4 1/2	4	5	5 1/4	20
20	2 7/16	3 1/2	5	4 1/2	5 5/8	7 1/4	22 1/2
27	2 11/16	4	5 1/2	5	6 3/8	7 1/2	24 3/4
35	2 15/16	4	6	5 1/2	7 1/8	8	27 1/2
45	3 3/16	4 1/2	7	6	7 1/2	8 1/2	29 1/2
60	3 7/16	4 1/2	7	6	7 1/2	8 7/8	29 1/2
75	3 11/16	5	7 1/2	6 3/4	8	8 3/4	33
90	3 15/16	5	8	7	8 1/2	9 5/8	36 1/2
110	4 3/16	5 1/2	9	7 1/2	9 1/4	9 1/2	41
140	4 11/16	6	10	8	9 3/4	10 7/8	46
175	4 15/16	6	11	9	11	11	50
230	5 1/2	6 1/2	12	10	12	11	57
350	6	7	12	10	12	11	57
480	7	7 3/4	14	11 1/4	14	12	64
625	7 1/2	9	16	12	17	14 1/2	70
875	8 1/2	10 1/2	16	14	18	16	80
1300	10	12	18	18	20	20	98

For Standard Speed Limits, see page 547.

†See Notes page 547 for horsepower at other speeds and "Service Conditions."

Friction Clutches—Hill Type

WITH Sleeve Connection for Pulleys, Sprockets or Gears.

This clutch embodies the latest improvements in operating toggle lever construction. It is conveniently adjustable and wearing parts can be readily replaced.

The friction surfaces are wood to iron, which is a combination offering great frictional resistance. The wood shoes are made from the best grade of well-seasoned maple. Large shoe area is supplied, and what is of even more importance, all of the shoe area is equally effective. The frictional resistance is the same at all points. This is due to the heavy cast iron jaws, rigid guides, and the balanced toggle-action transmitting the pressure effort of the operator.

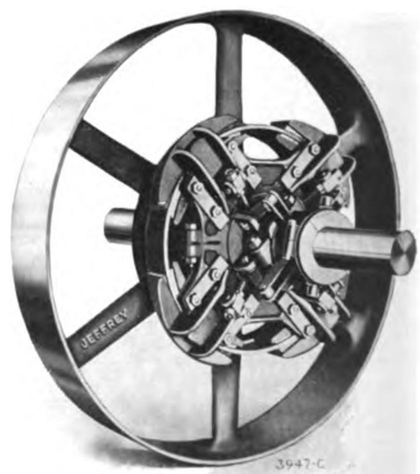
While having its greatest latitude of application through the sleeve connection, as illustrated, this clutch may be ordered direct connected to ring cast on arms of pulley when pulley and clutch are ordered together.

For List Price—See Price List Bulletin

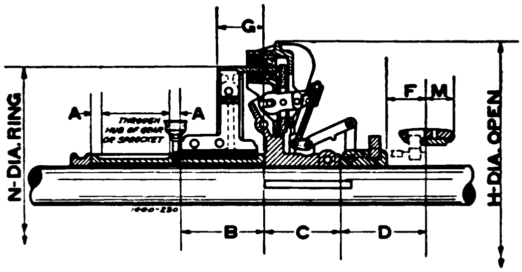
‡ Clutch No.	Maximum Standard Bore	Largest Bore	Length of Sleeve	‡ Clutch No.	Maximum Standard Bore	Largest Bore	Length of Sleeve
9	2 7/16	3 1/2	14 1/2	60	4 7/16	7	23
12	2 15/16	4	15 1/2	75	4 15/16	7 1/2	24 1/2
15	2 15/16	4 1/2	15 1/2	90	4 15/16	8	25 1/2
20	3 7/16	5	17 1/2	110	5 7/16	9	30
27	3 15/16	5 1/2	19 1/2	140	5 15/16	10	31 1/2
35	3 15/16	6	19 1/2	175	5 15/16	11	33 1/2
45	4 7/16	7	22				

‡For Speeds and Horse-power, see page 547.

See page 545 for diameter of sleeves. Clutches regularly fitted with babbited sleeves. Bronze lined sleeves for special conditions.



Friction Clutches—"Hill Type"



Dimensions in Inches

Clutch No.	Bore	A	B	C	D	F	G	H	M	N
9	$1\frac{1}{16}$–$3\frac{1}{2}$	$1\frac{1}{2}$	$4\frac{1}{2}$	$4\frac{1}{8}$	5	$1\frac{7}{8}$	3	15	$1\frac{1}{2}$	12
12	$1\frac{1}{16}$–4	$1\frac{1}{2}$	$4\frac{3}{4}$	$4\frac{3}{4}$	$5\frac{1}{4}$	$2\frac{1}{8}$	$3\frac{3}{16}$	$17\frac{1}{2}$	$1\frac{1}{2}$	14
15	$1\frac{5}{16}$–$4\frac{1}{2}$	$1\frac{1}{2}$	5	5	$5\frac{1}{4}$	$2\frac{1}{8}$	$3\frac{5}{16}$	20	$1\frac{1}{2}$	16
20	$1\frac{9}{16}$–$3\frac{1}{2}$	2	$5\frac{1}{4}$	$5\frac{5}{8}$	$6\frac{7}{8}$	$2\frac{5}{8}$	$3\frac{15}{16}$	$22\frac{1}{2}$	2	18
	$3\frac{9}{16}$–5	2	$5\frac{1}{4}$	$5\frac{5}{8}$	$7\frac{1}{4}$	$2\frac{5}{8}$	$3\frac{15}{16}$	$22\frac{1}{2}$	2	18
27	$1\frac{9}{16}$–$3\frac{1}{2}$	2	$5\frac{1}{2}$	$6\frac{3}{8}$	$7\frac{1}{8}$	$2\frac{7}{8}$	$4\frac{1}{8}$	$24\frac{3}{4}$	2	20
	$3\frac{9}{16}$–5	2	$5\frac{1}{2}$	$6\frac{3}{8}$	$7\frac{1}{2}$	$2\frac{7}{8}$	$4\frac{1}{8}$	$24\frac{3}{4}$	2	20
	$5\frac{1}{16}$–$5\frac{1}{2}$	2	$5\frac{1}{2}$	$6\frac{3}{8}$	$7\frac{3}{8}$	$2\frac{3}{4}$	$4\frac{1}{8}$	$24\frac{3}{4}$	$2\frac{1}{2}$	20
35	$1\frac{9}{16}$–$3\frac{1}{2}$	2	$5\frac{3}{4}$	$7\frac{1}{8}$	$7\frac{5}{8}$	$3\frac{3}{8}$	$4\frac{1}{4}$	$27\frac{1}{2}$	2	22
	$3\frac{9}{16}$–6	2	$5\frac{3}{4}$	$7\frac{1}{8}$	8	$3\frac{3}{8}$	$4\frac{1}{4}$	$27\frac{1}{2}$	$2\frac{1}{2}$	22
45	$2\frac{1}{16}$–$3\frac{1}{2}$	2	$6\frac{1}{2}$	$7\frac{1}{2}$	$8\frac{1}{8}$	$3\frac{7}{8}$	$4\frac{7}{8}$	$29\frac{1}{2}$	2	24
	$3\frac{9}{16}$–7	2	$6\frac{1}{2}$	$7\frac{1}{2}$	$8\frac{1}{2}$	$3\frac{7}{8}$	$4\frac{7}{8}$	$29\frac{1}{2}$	$2\frac{1}{2}$	24
60	$2\frac{1}{16}$–$3\frac{1}{2}$	$2\frac{1}{2}$	$6\frac{1}{2}$	$7\frac{1}{2}$	$8\frac{1}{8}$	$3\frac{7}{8}$	$4\frac{7}{8}$	$29\frac{1}{2}$	2	24
	$3\frac{9}{16}$–4	$2\frac{1}{2}$	$6\frac{1}{2}$	$7\frac{1}{2}$	$8\frac{5}{8}$	$3\frac{7}{8}$	$4\frac{7}{8}$	$29\frac{1}{2}$	2	24
	$4\frac{1}{16}$–5	$2\frac{1}{2}$	$6\frac{1}{2}$	$7\frac{1}{2}$	$8\frac{7}{8}$	$3\frac{7}{8}$	$4\frac{7}{8}$	$29\frac{1}{2}$	2	24
	$5\frac{1}{16}$–7	$2\frac{1}{2}$	$6\frac{1}{2}$	$7\frac{1}{2}$	$8\frac{3}{4}$	$3\frac{3}{4}$	$4\frac{7}{8}$	$29\frac{1}{2}$	$2\frac{1}{2}$	24
75	$2\frac{9}{16}$–$3\frac{1}{2}$	$2\frac{1}{2}$	$7\frac{1}{2}$	8	$7\frac{7}{8}$	$3\frac{5}{8}$	$5\frac{1}{4}$	33	$2\frac{1}{4}$	27
	$3\frac{9}{16}$–4	$2\frac{1}{2}$	$7\frac{1}{2}$	8	$8\frac{3}{8}$	$3\frac{5}{8}$	$5\frac{1}{4}$	33	2	27
	$4\frac{1}{16}$–7	$2\frac{1}{2}$	$7\frac{1}{2}$	8	$8\frac{1}{2}$	$3\frac{1}{2}$	$5\frac{1}{4}$	33	$2\frac{1}{4}$	27
	$7\frac{1}{16}$–$7\frac{1}{2}$	$2\frac{1}{2}$	$7\frac{1}{2}$	8	$8\frac{3}{4}$	$3\frac{1}{4}$	$5\frac{1}{4}$	33	$2\frac{1}{4}$	27
90	3	$2\frac{1}{2}$	$7\frac{3}{4}$	$8\frac{1}{2}$	$8\frac{1}{2}$	$4\frac{1}{4}$	$5\frac{5}{8}$	$36\frac{1}{2}$	$2\frac{1}{4}$	30
	$3\frac{1}{16}$–$3\frac{1}{2}$	$2\frac{1}{2}$	$7\frac{3}{4}$	$8\frac{1}{2}$	$8\frac{7}{8}$	$4\frac{1}{8}$	$5\frac{5}{8}$	$36\frac{1}{2}$	$2\frac{1}{4}$	30
	$3\frac{9}{16}$–7	$2\frac{1}{2}$	$7\frac{3}{4}$	$8\frac{1}{2}$	$9\frac{1}{8}$	$4\frac{1}{8}$	$5\frac{5}{8}$	$36\frac{1}{2}$	$2\frac{1}{4}$	30
	$7\frac{1}{16}$–9	$2\frac{1}{2}$	$7\frac{3}{4}$	$8\frac{1}{2}$	$9\frac{5}{8}$	$4\frac{1}{8}$	$5\frac{5}{8}$	$36\frac{1}{2}$	$2\frac{1}{4}$	30
110	$3\frac{1}{2}$	$2\frac{1}{2}$	$10\frac{3}{4}$	$9\frac{1}{4}$	$8\frac{3}{4}$	4	$6\frac{1}{2}$	41	$2\frac{1}{4}$	34
	$3\frac{9}{16}$–7	$2\frac{1}{2}$	$10\frac{3}{4}$	$9\frac{1}{4}$	9	4	$6\frac{1}{2}$	41	$2\frac{1}{2}$	34
	$7\frac{1}{16}$–9	$2\frac{1}{2}$	$10\frac{3}{4}$	$9\frac{1}{4}$	$9\frac{1}{2}$	4	$6\frac{1}{2}$	41	$2\frac{1}{2}$	34
140	3 –7	$2\frac{1}{2}$	$11\frac{1}{2}$	$9\frac{3}{4}$	$10\frac{3}{8}$	$5\frac{3}{8}$	$6\frac{7}{8}$	46	$2\frac{1}{2}$	38
	$7\frac{1}{16}$–10	$2\frac{1}{2}$	$11\frac{1}{2}$	$9\frac{3}{4}$	$10\frac{7}{8}$	$5\frac{3}{8}$	$6\frac{7}{8}$	46	$2\frac{1}{2}$	38
175	$4\frac{1}{16}$–7	$2\frac{1}{2}$	$12\frac{1}{2}$	11	$10\frac{1}{2}$	$5\frac{1}{2}$	$7\frac{1}{2}$	50	$2\frac{1}{2}$	42
	$7\frac{1}{16}$–11	$2\frac{1}{2}$	$12\frac{1}{2}$	11	11	$5\frac{1}{2}$	$7\frac{1}{2}$	50	$2\frac{1}{2}$	42

"Hill Type" Extended Sleeves

Dimensions in Inches

Clutch No.	$1\frac{3}{16}$	$1\frac{7}{16}$	$1\frac{11}{16}$	$1\frac{15}{16}$	$2\frac{3}{16}$	$2\frac{7}{16}$	$2\frac{11}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$	$3\frac{11}{16}$	$3\frac{15}{16}$	$4\frac{7}{16}$	$4\frac{15}{16}$	$5\frac{7}{16}$	$5\frac{15}{16}$
	Outside Diameter of Sleeve, Inches														
9	$2\frac{15}{16}$	$3\frac{7}{16}$	$3\frac{7}{16}$	$3\frac{15}{16}$	$3\frac{15}{16}$	$4\frac{7}{16}$	$4\frac{7}{16}$	$4\frac{15}{16}$	$5\frac{7}{16}$						
12	$2\frac{15}{16}$	$3\frac{7}{16}$	$3\frac{7}{16}$	$3\frac{15}{16}$	$3\frac{15}{16}$	$4\frac{7}{16}$	$4\frac{7}{16}$	$4\frac{15}{16}$	$5\frac{7}{16}$	$5\frac{7}{16}$	$5\frac{15}{16}$				
15		$3\frac{7}{16}$	$3\frac{7}{16}$	$3\frac{15}{16}$	$4\frac{7}{16}$	$4\frac{7}{16}$	$4\frac{15}{16}$	$4\frac{15}{16}$	$5\frac{7}{16}$	$5\frac{15}{16}$	$5\frac{15}{16}$	$6\frac{1}{2}$			
20				$4\frac{7}{16}$	$4\frac{7}{16}$	$4\frac{15}{16}$	$4\frac{15}{16}$	$5\frac{7}{16}$	$5\frac{7}{16}$	$5\frac{15}{16}$	$5\frac{15}{16}$	$6\frac{1}{2}$	7		
27						$4\frac{15}{16}$	$5\frac{7}{16}$	$5\frac{7}{16}$	$5\frac{15}{16}$	$6\frac{1}{2}$	$6\frac{1}{2}$	7	$7\frac{1}{2}$	8	
35							$5\frac{7}{16}$	$5\frac{15}{16}$	$6\frac{1}{2}$	$6\frac{1}{2}$	$6\frac{1}{2}$	7	$7\frac{1}{2}$	8	9
45								$5\frac{15}{16}$	$6\frac{1}{2}$	7	7	$7\frac{1}{2}$	8	$8\frac{1}{2}$	9
60									$6\frac{1}{2}$	7	7	$7\frac{1}{2}$	8	$8\frac{1}{2}$	9
75									7	7	$7\frac{1}{2}$	8	8	$8\frac{1}{2}$	9
90									7	$7\frac{1}{2}$	$7\frac{1}{2}$	8	$8\frac{1}{2}$	9	$9\frac{1}{2}$
110									$7\frac{1}{2}$	8	8	$8\frac{1}{2}$	9	$9\frac{1}{2}$	10
140											8	$8\frac{1}{2}$	9	$9\frac{1}{2}$	10
175											$8\frac{1}{2}$	9	$9\frac{1}{2}$	10	$10\frac{1}{2}$

Transmission Machinery

Parts of Hill Type Friction Clutches and Cut-Off Couplings

Prices Given on Application

In Ordering Repairs give number of clutch with number of part wanted. Example—75-E calls for connecting lever of No. 75 clutch.

When ordering Hubs, Cones, Yokes or Links, give diameter of Shaft, also for hubs give keyseat and whether solid or split. Standard Keyseats, page 531. Example—Split 60-A $3\frac{7}{16}''$ bore—standard K. S. calls for separable hub of No. 60 clutch; split with $3\frac{7}{16}''$ bore and keyseat for standard key.

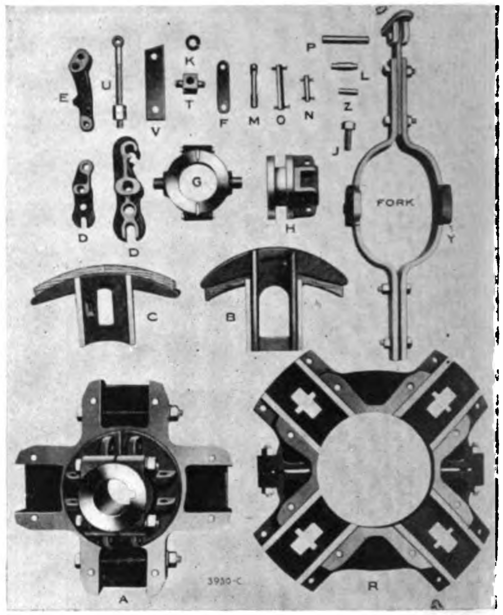


Plate No. 1

Plate No. 1

A—Hub. (Separable.) (Sizes, No. 9 to 90, inclusive.)
B—Outside Jaw.
C—Inside Jaw.
D—Fulcrum Lever. (Size Clutch determines Styles.)
E—Connecting Lever.
F—Links, in pairs.
Fork—(Hand Lever extra, see below.)
G—Yoke.
H—Cone.
J—Stud.
K—Lock Washer.
L—Fulcrum Pin.
M—C Jaw Pin.
N—Link Pin.
O—E Lever Pin.
P—B Jaw Pin.
R—Fulcrum Plate. (Sizes, No. 9 to 90, inclusive.)
T—Trunnion Block.
U—Eye Bolt.
V—Gib Plate.
Y—Cast Iron Clip for Fork.
Z—Eye Bolt Pin, Shifting Fork.

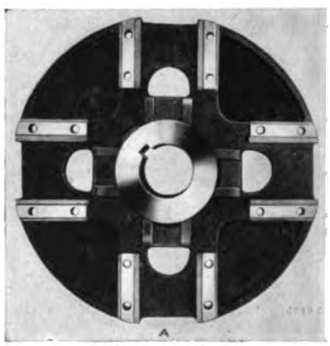


Plate No. 2

Plate No. 2

A—Hub. (Size No. 110 and above.)
R—Fulcrum Plate. (Size No. 110 and above.)

13140

Extensions for Shifting Fork furnished to suit conditions

Transmission Machinery

Friction Clutches—Hill Type

Horse-power of Clutches at 100 R. P. M. Applied to Pulleys or Sprockets and Gears of Equivalent Strength

Other Speeds—Horse-powers are proportional for speeds other than 100 R. P. M., with a maximum of double the horse-power listed in table below. Clutches of speeds to about double the standard limits are furnished at an extra charge; speed of Standard Pulley Rims must not exceed 5000 feet per Min. See Note (3) page 540. For Clutch Dimensions—see pages 544 and 545.

Service Conditions—(a) For ordinary Service, starting under light or average loading use Full Tabular Ratings (b) For Frequent Starting under average or intermittent loading use 75% Tab. Ratings. (c) For Continuous Starting and Stopping; for all conditions starting under full loading, also gas engine and pump service use 50% of Tabular Ratings.

Heavy Zig-Zag Lines—The table below is one giving horsepower of belting at 100 R. P. M. upon which has been plotted lines indicating the proper size of clutch for transmitting the given horsepower. By following through to the border from the intersection of "Diam. of Pulley" and "Belt", taking care not to cross any of the heavy lines, you will find the standard size of clutch for normal working conditions. (See service conditions.) Never use a smaller size of clutch than given between Zig-Zag lines, even though you require but a part of the horse-power listed at such intersection, after full consideration of "Speeds" and "Service" noted above. Use larger sizes when conditions require them.

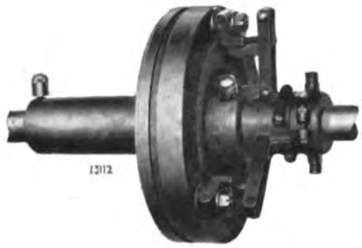
Dotted Zig-Zag Line—Pulleys above Dotted Line are smaller in diameter under rim than the outside diameter of the clutches listed with them, and therefore clutch can not be placed in under pulley rim.

No. of Clutch	Diam. of Pulley	No. 9 Clutch 4″ Belt	6″ Belt	8″ Belt	10″ Belt	No. 12 12″ Belt	No. 15 14″ Belt	16″ Belt	No. 20 18″ Belt	20″ Belt	22″ Belt	No. 27 24″ Belt	No. of Clutch
	12″	2.0	3.1	5.0	6.3								27 *STD. SPEED 350 R.P.M.
	14″	2.4	3.7	5.9	7.3	11.0							
	16″	2.7	4.2	6.7	8.4	12.6	14.7						
	18″	3.1	4.7	7.5	9.4	14.1	16.5	18.8					35 *STD. SPEED 350 R.P.M.
9 *STD. SPEED 350 R.P.M.	20″	3.5	5.2	8.4	10.5	15.7	18.3	21.0	23.6				
	22″	3.8	5.8	9.2	11.5	17.3	20.2	23.0	25.9	28.8			
	24″	4.2	6.3	10.0	12.6	18.8	22.0	25.1	28.3	31.4	34.5		45 *STD. SPEED 350 R.P.M.
	26″	4.6	6.8	10.9	13.6	20.4	23.8	27.2	30.6	34.1	37.5	40.9	
12 *STD. SPEED 350 R.P.M.	28″	4.9	7.3	11.7	14.7	22.0	25.7	29.3	33.0	36.7	40.3	44.0	
	30″	5.3	7.9	12.6	15.7	23.6	27.5	31.4	35.3	39.3	43.2	47.1	60 *STD. SPEED 350 R.P.M.
	32″	5.5	8.4	13.4	16.8	25.1	29.3	33.5	37.7	41.9	46.1	50.3	
15 *STD. SPEED 350 R.P.M.	34″	5.9	8.9	14.2	17.8	26.7	31.2	35.6	40.1	44.5	49.0	53.4	
	36″	6.2	9.4	15.1	18.8	28.3	33.0	37.7	42.4	47.1	51.8	56.5	75 *STD. SPEED 350 R.P.M.
	38″	6.6	10.0	15.9	19.9	29.9	34.8	39.8	44.8	49.8	54.7	59.7	
	40″	7.0	10.5	16.8	20.9	31.4	36.6	41.9	47.1	52.4	57.6	62.8	
20 *STD. SPEED 350 R. P. M.	42″	7.3	11.0	17.6	22.0	33.0	38.5	44.0	49.5	55.0	60.5	66.0	90 *STD. SPEED 350 R.P.M.
	44″	7.7	11.5	18.4	23.0	34.6	40.3	46.1	51.8	57.6	63.4	69.1	
	46″	8.0	12.0	19.3	24.1	36.1	42.1	48.2	54.2	60.2	66.2	72.2	
	48″	8.4	12.6	20.1	25.1	37.7	44.0	50.3	56.6	62.9	69.1	75.4	
	50″		13.1	20.9	26.2	39.3	45.8	52.4	58.9	65.5	72.0	78.5	110 *STD. SPEED 350 R. P. M.
27 *STD. SPEED 350 R. P. M.	52″		13.6	21.8	27.2	40.8	47.6	54.4	61.2	68.1	74.9	81.7	
	54″		14.1	22.6	28.3	42.4	49.5	56.6	63.6	70.7	77.8	84.8	
	56″		14.7	23.5	29.3	44.0	51.3	58.6	66.0	73.3	80.6	88.0	
	58″		15.2	24.3	30.4	45.5	53.1	60.7	68.3	75.9	83.5	91.1	
	60″			25.1	31.0	47.1	55.0	62.8	70.7	78.6	86.4	94.3	140 *STD. SPEED 350 R. P. M.
	62″			26.0	32.5	48.7	56.8	64.9	73.0	81.2	89.3	97.4	
	64″			26.8	33.5	50.3	58.7	67.0	75.4	83.8	92.2	100.6	
	66″			27.6	34.6	51.8	60.5	69.1	77.8	86.4	95.0	103.7	
	68″			28.5	35.6	53.4	62.3	71.2	80.1	89.0	97.9	106.8	
	70″			29.3	36.7	55.0	64.3	73.3	82.5	91.7	100.8	110.0	
	72″			30.2	37.7	56.6	66.0	75.4	84.8	94.3	103.7	113.1	
*See above Notes on "Other Speeds"	74″			31.0	38.7	58.1	67.8	77.5	87.2	96.9	106.5	116.2	175 *STD. SPEED 250 R. P. M.
	76″			31.8	39.8	59.7	69.6	79.6	89.6	99.5	109.5	119.4	
	78″			32.7	40.8	61.3	71.5	81.7	91.9	102.1	112.3	122.5	
	80″				41.9	62.8	73.3	83.8	94.2	104.7	115.2	125.6	
	82″				42.9	64.4	75.1	85.9	96.6	107.4	118.1	128.8	
	84″				44.0	66.0	77.0	88.0	99.0	110.0	121.0	131.9	
	86″				45.0	67.5	78.8	90.0	101.3	112.6	123.8	135.1	
	88″				46.1	69.1	80.6	92.2	103.7	115.2	126.7	138.2	230 *STD. SPEED 250 R. P. M.
	90″					70.7	82.5	94.2	106.0	117.8	129.6	141.4	
	92″					72.3	84.3	96.4	108.4	120.5	132.5	144.5	
	94″					73.8	86.2	98.4	110.7	123.1	135.4	147.7	
	96″					75.4	88.0	100.5	113.1	125.7	138.2	150.8	

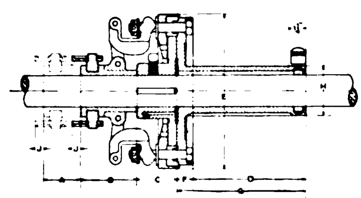
For horse-power of Cut-off Couplings see page 544.

Transmission Machinery

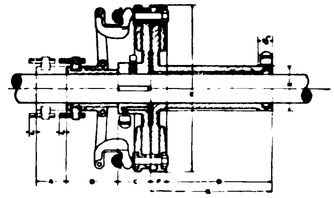
Kinney Type Friction Clutches



Clutch with Extended Sleeve



Competitor Type
(Driving Clutch)



Interchange Type
(Driving or Driven Clutch)

IN construction this clutch is the simplest Friction Clutch made. When clamped together it forms a solid bolt coupling.

The power is transmitted directly through the two substantial flat discs and not through bolts, loose joints or working parts.

There are no wood blocks, fibre discs or other parts to quickly wear out and be replaced.

Change in atmospheric conditions does not effect the tension of the adjustments.

When properly oiled the glazed surfaces of the metal allow an easy, smooth, positive action with no sudden strain and without grinding, chattering or other noises.

This Clutch is practically indestructable.

It seldom needs adjustment or repairs.

The wear of the parts does not effect their power or efficiency.

The shifting mechanism consists of a sliding member to which the one piece cams are connected by pivoted links. This link movement is very powerful and requires slight pressure on the shifting lever to clamp the discs firmly together. All that is necessary to adjust the clutch is to turn the draw bolt nuts which are on the cams on the face of the Clutch. This can be done with a common wrench and does not require any special tools.

The standard sleeve is of the well-known wick oiling type so successfully used in loose pulleys. This sleeve is much longer than a pulley bushing, therefore more durable.

The sleeve is equipped with an automatic oil cup which can be filled in any position. To insure a perfect bearing it is only necessary to keep this cup well filled with machine oil.

For heavy duty or for use on driving shaft at high speed we recommend the use of a ball bearing sleeve.

Dimensions of Kinney Type Friction Clutches

Driving Clutches No.	Driven Clutches No.	Horse-Power at 100 R. P. M. §	Max. Speed R. P. M. ‡	Max. Bore	Shaft Equal to Clutch	Approx. Shipping Weight in Lbs.	Stock Bores			A	B	C	D	E	F	G	J
50	80	2	1000	1 1/2	15/16	25	15/16	1 3/16	1 7/16	1 3/16	2 3/4	1 15/16	5	7 3/16	1	6	7/8
51	81	2.66	1000	1 3/4	1 3/16	40	1 3/16	1 7/16	1 11/16	1 5/8	3	2 1/8	6	8 1/2	1	7	7/8
*52	82	3.33	900	2	1 7/16	58	1 7/16	1 11/16	1 15/16	2 9/16	3	2 3/16	8	10 1/2	1	9	7/8
*53	83	5.33	750	2 1/4	1 11/16	92	1 11/16	1 15/16	2 3/16	2 11/16	3 1/2	2 13/16	7 11/16	13	1 5/16	9	7/8
*54	84	8	600	2 1/2	1 15/16	160	1 15/16	2 3/16	2 7/16	3 1/8	5 1/8	3 1/4	10 3/8	15 3/8	1 5/8	12	1 1/8
*55	85	10.66	500	3	2 3/16	195	2 3/16	2 7/16	2 15/16	3 1/2	5 1/4	3 1/4	10 3/8	16 7/8	1 5/8	12	1 1/8
*56	86	23.33	400	3 3/4	2 7/16	340	2 7/16	2 15/16	3 7/16	3 1/2	5 3/4	3 1/4	12 3/8	18 3/8	1 5/8	14	1 1/8
*57	87	40	400	4 1/2	2 15/16	450	2 15/16	3 7/16	3 15/16	4 3/8	6 5/8	5 1/4	13 7/8	22	2 1/8	16	1 1/4
† 9A	† 9B	66	350	5 3/4	3 7/16	750	3 7/16	......	......	5	6 1/4	5	21	25	3	24	2
†10A	†10B	100	330	6 1/2	3 15/16	900	3 15/16	......	......	6	6 3/4	5 1/2	20 1/2	29	3 1/4	24	2
†11A	†11B	200	310	8 1/4	4 15/16	1900	4 15/16	......	......	6 5/8	6 1/2	6 1/2	24 1/2	35 1/4	3 7/8	28	2 1/8
†12A	†12B	330	300	9 3/4	6	2800	6	......	......	8	6 1/2	7 5/8	24 1/2	41 3/4	4 3/8	28	2 1/8

Use Driving Clutch when shaft is driving, use Driven Clutch when shaft is driven.

*These sizes can be furnished either solid or split, from stock. The split and solid parts are interchangeable. The split feature of this Clutch is of great value inasmuch as it allows an easy and quick installation without taking the shaft down or disturbing the equipment upon same.

†These sizes can be furnished Driving or Driven, Split or Solid.

‡For Speeds over 300 Clutches must be specially balanced and should be noted on order. Friction Clutch Sleeves operating at speeds 400 R. P. M. and over should be fitted with Ball Bearings.

§For frequent starting, use Clutch of Shaft Capacity.

All Clutches will pick up and transmit full rated capacity. Horse-power may be increased in direct proportion to the speed up to 300 R. P. M. Above this speed deduct 10 per cent per 100 R. P. M. for starting load. For carrying capacity direct ratio any speed.

Note Max. dia. of Pulleys, Sprockets, etc., on page 549 to be used with clutches.

Kinney Type Friction Clutches

Extended Sleeves for Kinney Type Clutches—Dimensions in Inches

Clutch No.	Dimensions—Inches														
	15/16	1 3/16	1 7/16	1 11/16	1 15/16	2 3/16	2 7/16	2 11/16	2 15/16	3 7/16	3 15/16	4 7/16	4 15/16	5 7/16	6
	Outside Diameter of Sleeve Inches (H—as shown on page 548.)														
50, 80	2 7/16	2 7/16	2 7/16	......	......	......	......	......	......	......	......	......	......	......	......
51, 81	......	2 15/16	2 15/16	2 15/16	......	......	......	......	......	......	......	......	......	......	......
52, 82	......	......	2 15/16	2 15/16	2 15/16	......	......	......	......	......	......	......	......	......	......
53, 83	......	......	......	3 7/16	3 7/16	3 7/16	......	......	......	......	......	......	......	......	......
54, 84	......	......	......	......	3 7/16	3 7/16	3 15/16	......	......	......	......	......	......	......	......
55, 85	......	......	......	......	......	4 7/16	4 7/16	4 7/16	4 7/16	......	......	......	......	......	......
56, 86	......	......	......	......	......	......	4 7/16	4 15/16	4 15/16	5 7/16	......	......	......	......	......
57, 87	......	......	......	......	......	......	......	4 15/16	4 15/16	5 15/16	5 15/16	......	......	......	......
9	......	......	......	......	......	......	......	......	......	5 15/16	6½	7	7½	8	......
10	......	......	......	......	......	......	......	......	......	......	6½	7	7½	8	8½
11	......	......	......	......	......	......	......	......	......	......	......	8½	8½	9	9½
12	......	......	......	......	......	......	......	......	......	......	......	......	......	9½	9½

Proper Size Clutches for Standard Pulleys

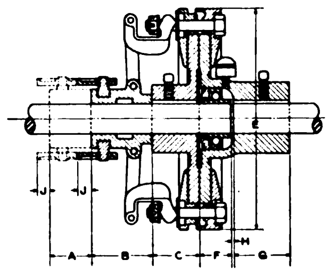
Diam. of Pulley	Width of Face									
	2	3	4	5	6	8	10	12	14	16
	Clutch Number									
6	50, 80	50, 80	50, 80	50, 80	52, 82	53, 83	54, 84	54, 84	56, 86	56, 86
8	50, 80	50, 80	50, 80	50, 80	52, 82	53, 83	54, 84	54, 84	56, 86	56, 86
10	50, 80	50, 80	50, 80	51, 81	52, 82	53, 83	54, 84	54, 84	56, 86	56, 86
12	50, 80	50, 80	51, 81	51, 81	52, 82	53, 83	54, 84	54, 84	56, 86	56, 86
14	50, 80	50, 80	51, 81	52, 82	53, 83	53, 83	54, 84	54, 84	56, 86	56, 86
16	50, 80	51, 81	52, 82	53, 83	53, 83	54, 84	54, 84	55, 85	56, 86	56, 86
18	50, 80	51, 81	52, 82	53, 83	53, 83	54, 84	55, 85	55, 85	56, 86	56, 86
20	50, 80	52, 82	53, 83	53, 83	54, 84	54, 84	55, 85	55, 85	56, 86	56, 86
22		52, 82	53, 83	53, 83	54, 84	54, 84	55, 85	55, 85	56, 86	56, 86
24		52, 82	53, 83	54, 84	54, 84	55, 85	55, 85	56, 86	56, 86	56, 86
26		53, 83	53, 83	54, 84	54, 84	55, 85	56, 86	56, 86	56, 86	56, 86
28		53, 83	53, 83	54, 84	54, 84	55, 85	56, 86	56, 86	56, 86	56, 86
30		53, 83	53, 83	54, 84	55, 85	55, 85	56, 86	56, 86	56, 86	57, 87
32		53, 83	54, 84	54, 84	55, 85	55, 85	56, 86	56, 86	56, 86	57, 87
34		53, 83	54, 84	54, 84	55, 85	55, 85	56, 86	56, 86	56, 86	57, 87
36		53, 83	54, 84	55, 85	55, 85	56, 86	56, 86	56, 86	57, 87	57, 87
38			54, 84	55, 85	55, 85	56, 86	56, 86	56, 86	57, 87	57, 87
40			54, 84	55, 85	55, 85	56, 86	56, 86	56, 86	57, 87	57, 87
42			54, 84	55, 85	55, 85	56, 86	56, 86	57, 87	57, 87	57, 87
44				55, 85	55, 85	56, 86	56, 86	57, 87	57, 87	57, 87
46				55, 85	56, 86	56, 86	56, 86	57, 87	57, 87	57, 87
48				55, 85	56, 86	56, 86	56, 86	57, 87	57, 87	57, 87
50				55, 85	56, 86	56, 86	56, 86	57, 87	57, 87	57, 87
52				55, 85	56, 86	56, 86	56, 86	57, 87	57, 87	9
54				55, 85	56, 86	56, 86	57, 87	57, 87	57, 87	9
56				55, 85	56, 86	56, 86	57, 87	57, 87	57, 87	9
58				55, 85	56, 86	56, 86	57, 87	57, 87	57, 87	9

Caution. No allowance will be made if these Clutches fail to give satisfaction when used with a pulley of a greater capacity than indicated above; except if used with the smallest bore of the several sizes. When Clutch is used of the smallest listed bore any size pulley may be used.

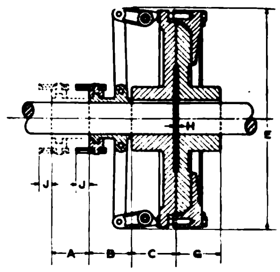
Transmission Machinery

Kinney Type Cut-Off Couplings

Cut-off Coupling



Interchange Type



Worrall Type (Heavy Duty)

IN the Interchange Type the end of the driven shaft projects into and is supported by a ball bearing which is inserted in the face of the driving disc. The inner race is made to fit the end of the driven shaft without the use of an adapter. By the use of the ball bearing guide the principal cause of Cut-off Coupling trouble is eliminated; it keeps the shafts in line and eliminates trouble caused by lack of lubrication. If larger bore than listed is required we can furnish this type Cut-off Coupling with any Driven Pulley Clutch bore by substituting a bronze bushing for the ball bearing. Such Clutches, however, are not guaranteed to transmit the full power of the shaft.

In the Worrall Type the shafts are centered by the bevel-face flange. This is the only positive method of centering heavy shafts. When disengaged the flanges are entirely separated, eliminating all friction. There is no end thrust upon the shafts or shifting mechanism. This coupling is very compact in design, occupying less space on the shaft than any other Clutch of equal power.

As it is sometimes difficult to obtain the exact horsepower to be transmitted, the table of sizes for Cut-off Couplings is based upon using a coupling of the same rated capacity as the rated capacity of the ordinary steel shafting.

Dimensions of Kinney Type Cut-Off Couplings

No. of Clutch	Type	Horsepower at 100 R. P. M. §	Max. Speed R. P. M. ‡	Max. Bore	Shaft Equal to Clutch	A	B	C	E	F	G	H	J
180	Interchange	2	1000	1 7/16	15/16	1 3/16	2¾	1 15/16	7 3/16	1⅜	2¼	¼	⅞
181	"	2.66	1000	1 11/16	1 3/16	1⅝	3	2⅛	8½	1 7/16	2½	¼	⅞
182	"	8.33	900	1 15/16	1 7/16	2 9/16	3	2 3/16	10½	1 7/16	3	¼	⅞
183	"	5.33	750	2 3/16	1 11/16	2 11/16	3½	2 13/16	13	1 11/16	3	¼	⅞
184	"	8	600	2 7/16	1 15/16	3⅛	5⅛	3¼	15⅜	1 15/16	3½	¼	1⅛
185	"	10.66	500	2 15/16	2 3/16	3½	5¼	3¼	16⅞	2 3/16	3¾	¼	1⅛
186	"	23.33	400	3 7/16	2 7/16	3½	5¾	3¼	18⅜	2 7/16	4	⅜	1⅛
187	"	40	400	3 15/16	2 15/16	4⅜	6⅝	5¼	22	2 15/16	5	½	1¼
9	Worrall	66	350	5¾	3 7/16	5	6¼	5	25	......	5	½	2
10	"	100	330	6½	3 15/16	6	6¾	5½	29	......	5½	½	2
11	"	200	310	8¼	4 15/16	6⅝	6½	6½	35¼	......	6½	⅝	2⅛
12	"	330	300	9¾	6	8	6½	7⅝	41¾	......	7⅝	¾	2⅛

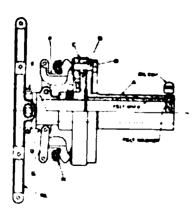
§For frequent starting, use Clutch of Shaft Capacity. All Clutches will pick up and transmit full rated capacity. Horsepower may be increased in direct proportion to the speed up to 300 R. P. M. Above this speed deduct 10 per cent per 100 R. P. M. for starting load. For carrying capacity direct ratio any speed.

‡For Speeds over 300 Clutches must be specially balanced and should be noted on order. Friction Clutch Sleeves operating at speeds 400 R. P. M. and over should be fitted with Ball Bearings.

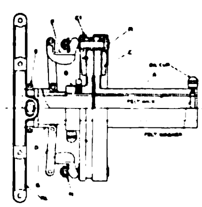
Weights of cut off Couplings approximately same as shown for Sleeve Type Clutches.

Parts List

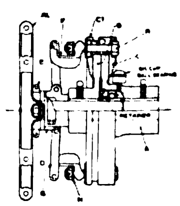
Clutch Yoke and Fulcrum



Driving Clutch



Driven Clutch



Cut-off Coupling

A—Sleeve Disc
B—Hub Disc
C—Ring Disc
C1—Ring Disc
D—Shifter Sleeve
E—Shifter Collar
F—Cam
G—Links (pair)
H—Cam Washer
KL—Shifter Yoke
M—Fulcrum
N—Disc Springs
R—Bolt and Nut

In ordering parts state size of Clutch, size of Shaft upon which it runs, and Part Letter.

Gears

Horsepower Ratings listed are for steady load conditions. For heavy intermittent service use ½ to ¾ of ratings.

Speed Limits indicated by zig zag lines with (†‡) notes should be observed for best results in ordinary service.

Pinions of not less than 15 teeth and preferably 18 to 20 teeth should be used in power transmission.

General Information

To Order Gears from Catalog—Specify as follows:

1. Kind: Cast Iron Gears with Cast Teeth are furnished unless otherwise specified.
2. Pitch Diameter.
3. Number of Teeth.
4. Width of Face.
5. Exact Bore.
6. Keyseat or Set Screw (or both).
7. Size of Keyway (Jeffrey Standard, pages 456 and 531.)

To Order Gears to Meet Your Conditions—Specify:

1. Kind of Gears.
2. Speeds and size of shafts.
3. Power required.
4. If Spur Gears, centers of shafts.
5. Largest outside diameter gear for clearance conditions.
6. If hubs are offset or special, give sketch if possible (Jeffrey Standard, page 456.)
7. Width and depth of keyseat (Jeffrey Standard, pages 456 and 531.)

For Larger Hubs than Ordinarily Furnished—Note clearance dimensions for extra large hubs or lugs.

Facing Hub of Gears—Gears are regularly furnished with one end of hub faced.
If both ends are to be finished, same must be indicated on order.

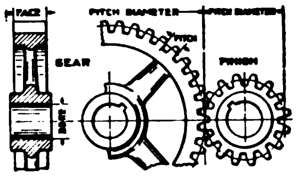
Plate Center from Patterns with Arms at extra charges.

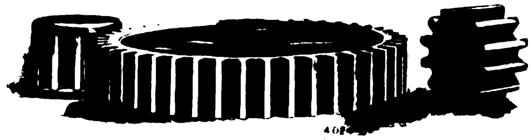
NOTE: Always use the Horsepower Rating of the smaller Gear of a pair. See also "Horsepower and Speeds," given at top of page.

Transmission Machinery

Spur Gears

For List Price—See Price List Bulletin





½″ Pitch

Pattern No.	Pitch Diam. Inches	Teeth	Face	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
A-18	2.25	14	1	1¾	.025	.128	.255	.382	.540	.610	.660	.72
A-19	7.00	44	1	6½	.120	.600	.975	1.19	1.40	1.54	1.69	1.83

¾″ Pitch

Pattern No.	Pitch Diam. Inches	Teeth	Face	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
A-228	2.43	10	2¼	1¾	.07	.39	.78	1.1	1.5	1.6	1.8	1.9
3435	2.89	12	1¾	2¼	.08	.41	.81	1.0	1.3	1.3	1.5	1.6
13507	3.13	13	2	2⅜	.10	.53	1.0	1.4	1.7	1.9	2.0	2.2
A-240	3.37	14	2	2⅝	.11	.58	1.1	1.7	2.0	2.2	2.4	2.5
A-20	3.61	15	2¼	2⅞	.14	.74	1.4	2.0	2.4	2.6	2.8	3.1
A-177	3.84	16	2	3⅛	.13	.69	1.6	1.9	2.3	2.5	2.7	2.9
A-12	4.08	17	2	3⅜	.16	.75	1.7	2.0	2.4	2.6	2.9	3.1
A-287	4.78	20	2	4⅛	.20	1.0	1.9	2.4	2.9	3.1	3.4	3.7
A-9	5.75	24	2	5	.26	1.3	2.2	2.8	3.3	3.6	4.0	4.3
A-175	6.45	27	2	5¾	.31	1.5	2.5	3.1	3.6	4.0	4.3	4.7
A-238	6.69	28	2	6	.32	1.6	2.6	3.2	3.8	4.1	4.4	4.8
A-236	8.12	34	2	7½	.41	1.9	3.0	3.7	4.4	4.7	5.2	5.6
A-239	8.60	36	2	7⅞	.44	2.2	3.1	3.8	4.5	5.0	5.4	5.8†
A-6	10.04	42	1¾	9⅜	.46	2.1	3.0	3.7	4.4	4.8	5.1	5.6
A-8	11.23	47	2	10½	.59	2.6	3.8	4.6	5.4	5.9	6.5	7.0
13506	11.94	50	2	11¼	.65	2.8	3.9	4.7	5.6	6.2	6.7	9.6
A-237	13.85	58	2	13⅛	.75	3.0	4.3	5.2	6.2	6.8	7.3	7.9‡
A-4	17.91	75	2	17¼	.98	3.6	5.0	6.2	7.3	8.0	8.7	
A-3	19.58	82	2	18⅞	1.1	3.7	5.2	6.3	7.4	8.2	9.0	
A-234	22.20	93	2	21½	1.3	3.9	5.6	6.8	8.0	8.8		
A-235	27.93	117	2	27¼	1.6	4.5	6.4	7.8	9.2			
A-1	28.17	118	2	27½	1.6	4.5	6.4	7.8	9.2			

1″ Pitch

Pattern No.	Pitch Diam. Inches	Teeth	Face	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
A-259	3.24	10	2½	2⅜	.15	.90	1.5	2.2	2.5	2.8	3.1	3.3
A-47	3.55	11	2¼	2¾	.16	.83	1.6	2.0	2.4	2.6	2.8	3.1
A-46	3.87	12	2¾	3	.23	1.2	2.0	2.5	3.0	3.3	3.6	3.8
A-42	4.18	13	2¾	3¼	.25	1.3	2.5	3.0	3.6	3.9	4.3	4.6
A-255	4.49	14	2½	3⅝	.25	1.3	2.6	3.2	3.8	4.1	4.6	4.9
A-39	5.12	16	2¾	4¼	.35	1.7	3.3	4.1	4.9	5.3	5.8	6.2

*Multiply Horse Power by 2.0 for Cast Iron—Cut Teeth.
Multiply Horse Power by 2.5 for Cast Steel—Cast Teeth.
Multiply Horse Power by 5.0 for Cast Steel—Cut Teeth.
†R. P. M. Limit for Cast Teeth. ‡R. P. M. Limit for Cut Teeth.
NOTE: Always use the Horsepower Rating of the smaller Gear of a pair.

Transmission Machinery

Spur Gears

For List Price—See Price List Bulletin

1″ Pitch—Continued

Pattern No.	Pitch Diam. Inches	Teeth	Face	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
A-293	5.44	17	2½	4½	.36	1.7	3.2	4.0	4.6	5.1	5.6	6.0
A-38	5.76	18	2½	4⅞	.38	1.9	3.5	4.2	5.0	5.4	5.9	6.4
A-36	6.08	19	2¼	5¼	.38	1.9	3.2	4.0	4.6	5.1	5.6	6.0
A-35	6.08	19	2¾	5¼	.47	2.3	3.9	4.8	5.7	6.2	6.8	7.3
A-223	7.34	23	2½	6½	.50	2.5	4.1	5.1	6.0	6.5	7.2	7.8
A-34	7.66	24	2¾	6¾	.64	3.2	4.8	5.9	6.9	7.7	8.4	9.1
A-176	7.98	25	2½	7	.61	3.1	4.5	5.5	6.5	7.1	7.8	8.5
A-33	9.58	30	2	8¾	.62	3.0	4.2	5.2	6.1	6.7	7.3	7.8
A-32	9.89	31	2	9	.65	3.0	4.3	5.3	6.2	6.7	7.4	8.0†
A-31	12.42	39	2	11½	.83	3.5	5.0	6.2	7.8	8.0	8.7	9.5
A-30	14.02	44	2	13⅛	.98	3.9	5.5	6.7	8.0	8.7	9.5	10.3
A-29	15.61	49	2	14¾	1.1	4.2	5.9	7.2	8.6	9.4	10.2	11.0
A-28	15.93	50	2½	15	1.4	5.3	7.4	9.2	10.8	11.8	12.9	14.0
A-27	17.84	56	2	17	1.3	4.5	6.3	7.8	9.2	10.0	10.8	........‡
A-26	20.06	63	2½	19⅛	1.8	6.0	8.6	10.5	12.4	13.5	....	....
A-241	21.97	69	2	21⅛	1.6	5.1	7.2	8.8	10.4	11.3	....	....
60656	23.89	75	2½	23	2.1	6.7	9.4	11.6	13.6	....	....	....
A-24	27.06	85	2½	26⅛	2.5	7.1	10.0	12.4	14.6	....	....	....
A-23	29.93	94	2½	29	2.8	7.5	10.6	13.2	....	....	....	....
A-22	35.98	113	2	35⅛	2.8	6.8	9.5	11.7	....	....	....	....
A-21	43.94	138	2	43	3.4	7.5	10.6	13.0	....	....	....	....

1⅛″ Pitch

Pattern No.	Pitch Diam. Inches	Teeth	Face	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
20638	3.99	11	3	3	.28	1.4	2.8	3.8	4.2	4.9	5.1	5.9
6593	6.18	17	3	5⅛	.54	2.7	4.7	5.8	6.5	7.7	8.9	9.4

1¼″ Pitch

Pattern No.	Pitch Diam. Inches	Teeth	Face	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
A-80	4.04	10	3½	3	.34	1.7	3.5	4.2	4.9	5.5	5.9	6.5
A-273	4.44	11	3¼	3⅜	.39	1.9	3.3	4.0	4.7	5.2	5.7	6.1
A-76	4.83	12	3¼	3¾	.42	2.1	3.4	4.1	4.9	5.4	6.5	6.8
A-78	4.83	12	3½	3¾	.45	2.3	3.7	4.5	5.2	5.8	6.4	6.8
A-264	5.62	14	3¼	4½	.53	2.6	4.8	5.9	6.9	7.5	8.3	9.0
A-74	6.01	15	3¼	4⅞	.61	3.0	5.2	6.3	7.4	8.2	9.0	9.6
A-72	6.81	17	3¼	5⅝	.71	3.5	5.8	7.1	8.4	9.3	10.1	11.0
A-68	7.99	20	3¼	6⅞	.93	4.8	6.8	8.4	9.8	10.8	11.8	12.8
A-204	8.39	21	3	7⅜	.92	4.6	6.5	8.0	9.5	10.4	11.3	12.3†
A-67	9.18	23	3¼	8⅛	1.1	5.4	7.6	9.4	11.1	12.2	13.3	14.4
A-66	9.98	25	3¼	8⅞	1.2	5.8	8.2	10.0	11.8	13.0	14.3	15.3
A-65	10.37	26	3	9⅜	1.2	5.5	7.9	9.6	11.4	12.5	13.7	14.8
A-64	11.95	30	3	10⅞	1.5	6.2	8.8	10.8	12.7	14.0	15.3	16.4
A-249	13.94	35	3¼	12⅞	1.9	7.5	10.6	13.0	15.3	16.8	18.4	19.8
A-182	14.34	36	3	13⅜	1.8	7.1	10.0	12.2	14.4	15.8	17.4	18.7
A-63	14.74	37	3	13¾	1.9	7.2	10.2	12.4	14.7	16.1	17.7	19.0
A-62	15.93	40	3	14⅞	2.0	7.6	10.7	13.1	15.4	17.0	18.6	20.0
A-184	17.91	45	3	16⅞	2.4	8.2	11.7	14.2	16.8	18.4	20.2	........‡
A-59	19.91	50	3	18⅞	2.7	8.8	12.5	15.2	17.9	19.7	....	....
A-58	23.88	60	3	22⅞	3.3	9.8	13.8	16.9	20.0	....	....	....

*Multiply Horse Power by 2.0 for Cast Iron—Cut Teeth.
Multiply Horse Power by 2.5 for Cast Steel—Cast Teeth.
Multiply Horse Power by 5.0 for Cast Steel—Cut Teeth.
†R. P. M. Limit for Cast Teeth. ‡R. P. M. Limit for Cut Teeth.
See also "Horse-power and Speeds," page 551.
NOTE: Always use the Horse-power Rating of the smaller Gear of a pair.

Transmission Machinery

Spur Gears

For List Price—See Price List Bulletin

1¼″ Pitch—Continued

Pattern No.	Pitch Diam. Inches	Teeth	Face	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth*							
					10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
A-224	25.09	63	3	24	3.4	10.1	14.3	17.5	20.6			
A-57	27.46	69	3	26⅜	3.8	10.7	15.0	18.3	21.5			
A-250	27.86	70	3¼	26⅞	4.2	11.5	16.3	20.0	23.5			
A-56	29.83	75	3	28⅞	4.1	11.5	15.8	19.3				
A-55	31.84	80	3	30¾	4.4	12.0	16.4	20.0				
A-54	35.42	89	3	34⅜	4.9	13.1	17.4	21.3				
A-52	35.81	90	3	34¾	5.0	13.4	17.4	21.3				
A-202	38.60	97	3	37½	5.4	14.0	18.2					
A-223	48.15	121	3	47	6.4	14.7	20.7					
A-268	49.75	124	3½	48⅝	7.7	17.4	24.5					
						†	‡					

1½″ Pitch

Pattern No.	Pitch Diam. Inches	Teeth	Face	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth*							
					10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
A-116	3.92	8	5	2⅝	.56	2.8	5.0	6.1	7.2	7.8	8.6	9.2
A-114	4.85	10	4½	3⅝	.68	3.4	5.8	7.1	8.5	9.2	10.0	11.0
A-258	5.32	11	4½	4	.75	3.7	6.2	7.6	9.0	9.8	10.8	11.6
A-191	5.32	11	5	4	.83	4.1	6.7	8.2	9.7	10.6	11.6	12.5
A-112	5.79	12	4¼	4½	.79	4.0	6.2	7.6	9.0	9.8	10.8	11.6
A-109	6.75	14	4	5⅜	1.0	5.1	8.6	10.7	12.6	13.7	14.9	16.2
A-110	6.75	14	5	5⅜	1.1	5.5	9.7	11.8	14.0	15.3	16.7	18.0
A-108	7.22	15	4½	5⅞	1.2	5.9	9.4	11.5	13.6	14.8	16.2	17.5
A-107	7.22	15	4¾	5⅞	1.3	6.2	9.9	12.1	14.4	15.6	17.0	18.4
A-106	7.69	16	5	5⅜	1.4	7.1	11.2	13.7	16.2	17.6	19.4	20.7
A-105	8.16	17	4½	6⅞	1.4	7.5	10.7	13.1	15.5	16.8	18.4	19.8†
A-279	9.59	20	4¾	8⅜	2.0	9.3	13.1	16.0	19.0	20.7	22.7	24.4
A-101	10.06	21	4¼	8¾	1.9	8.7	12.3	15.0	17.8	19.4	21.2	22.9
A-97	11.49	24	4½	10¼	2.4	10.3	14.6	17.8	21.0	23.0	25.2	27.0
A-96	11.49	24	5	10¼	2.6	11.4	16.2	19.8	23.5	25.5	28.0	30.0
A-95	12.44	26	5	11¼	2.9	12.2	17.2	21.1	25.0	27.2	30.0	32.0
A-253	12.92	27	4½	11⅝	2.8	11.3	16.0	19.5	23.1	25.2	27.5	29.6
A-230	16.26	34	5	15	4.0	14.9	21.0	25.9	30.6	33.4	36.5	39.2‡
A-92	16.75	35	4½	15½	3.8	13.6	19.3	23.6	28.0	30.5	33.4	
A-117	18.16	38	4½	16⅞	4.2	14.5	20.5	25.1	29.8	32.5	35.5	
A-186	19.11	40	4½	17⅞	4.4	15.0	21.3	26.0	30.7	33.5		
A-91	20.07	42	4	18⅞	4.2	13.8	19.4	23.8	28.2	30.7		
A-178	21.02	44	4½	19¾	5.0	16.0	22.7	27.8	33.0	36.0		
A-90	21.98	46	4	20¾	4.7	14.7	20.7	25.5	30.0	32.8		
A-89	23.89	50	4	22⅝	5.1	15.5	22.0	26.9	31.8			
A-265	26.25	55	4½	25	6.4	18.4	26.0	31.9	37.6			
A-87	28.18	59	4½	26⅞	6.9	19.2	27.1	33.2	39.3			
A-210	30.09	63	4½	28¾	7.4	20.0	28.3	34.7				
A-254	30.56	64	4½	29⅜	7.5	20.2	28.6	35.0				
A-86	32.00	67	4	30¾	7.0	18.4	26.0	31.8				
A-85	35.82	75	4	34½	7.9	19.8	28.0	34.3				
A-257	37.25	78	4	36	8.3	20.0	28.3	34.6				
A-84	40.12	84	4	38⅞	9.3	21.0	29.5					
A-280	40.12	84	4½	38⅞	10.5	23.5	33.4					
A-83	47.76	100	4½	46½	11.5	26.0	36.6					
A-272	49.66	104	4½	48⅜	12.0	26.5	38.0					
A-294	55.87	117	4½	54⅝	12.7	28.5	40.2					
A-246	60.16	126	4½	58¾	13.2	29.6						

*Multiply Horse Power by 2.0 for Cast Iron—Cut Teeth.
Multiply Horse Power by 2.5 for Cast Steel—Cast Teeth.
Multiply Horse Power by 5.0 for Cast Steel—Cut Teeth.
†R. P. M. Limit for Cast Teeth. ‡R. P. M. Limit for Cut Teeth.
See also "Horse-power and Speeds," page 551.
NOTE: Always use the Horse-power Rating of the smaller Gear of a pair.

Spur Gears

For List Price—See Price List Bulletin

1¾" Pitch

Pattern No.	Pitch Diam. Inches	Teeth	Face	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
A-145	6.22	11	5⅝	4¾	1.3	6.5	9.5	11.6	13.7	15.0	16.4	17.6
A-144	6.77	12	5½	5¼	1.4	7.0	9.6	11.8	13.8	15.1	16.6	17.8
A-288	6.77	12	6	5¼	1.5	7.5	10.4	12.8	15.1	16.5	18.1	19.4
A-143	7.86	14	6	6⅜	1.9	10.3	14.6	18.0	21.1	23.1	25.3	27.2†
A-142	8.42	15	5½	6⅞	1.9	10.2	14.4	17.7	20.8	22.8	25.0	26.8
A-141	8.42	15	6⅜	6⅞	2.2	11.8	16.8	20.5	24.2	26.5	29.0	31.0
A-140	8.97	16	6	7½	2.3	12.0	17.0	20.7	24.5	26.7	29.2	31.5
A-139	10.08	18	5½	8⅝	2.6	12.3	17.4	21.3	25.1	27.5	30.1	32.4
A-283	10.64	19	5½	9⅛	2.8	12.9	18.3	22.4	26.4	28.9	31.6	34.0
A-138	10.64	19	6⅜	9⅛	3.3	15.0	21.2	26.0	30.6	33.5	36.7	39.5
A-188	11.18	20	5½	9¾	3.1	13.5	19.2	23.5	27.6	30.2	33.2	35.6
A-137	11.75	21	5¼	10¼	3.2	13.5	19.2	23.5	27.6	30.2	33.2	35.5
A-148	12.29	22	6	10¾	3.8	16.2	22.8	28.0	33.0	36.0	39.5	42.5
A-190	13.40	24	6	11⅞	4.3	17.3	24.5	30.0	35.3	38.6	42.4	45.6
A-136	13.96	25	6	12½	4.5	17.9	25.2	31.0	36.5	40.0	43.7	47.0
A-135	14.52	26	5½	13	4.4	16.9	24.0	29.4	34.5	37.8	41.5	44.5
A-134	16.19	29	5	14¾	4.5	16.7	23.6	29.0	34.1	37.4	41.0	44.0‡
A-133	18.41	33	5½	16⅞	5.8	21.1	30.0	36.6	43.0	47.2	51.8	
A-132	20.08	36	5	18⅝	5.9	19.6	27.7	34.0	40.0	43.7		
A-131	22.30	40	6	20⅞	8.1	25.2	35.7	43.8	51.6	56.5		
A-130	23.42	42	5	22	7.2	21.6	30.7	37.6	44.2			
A-129	25.64	46	5½	24⅛	8.7	25.5	36.0	44.0	52.0			
A-266	26.76	48	5½	25¼	9.1	26.2	37.1	45.6	53.7			
A-128	27.87	50	5½	26⅜	9.5	26.7	37.8	46.5	54.5			
A-127	31.76	57	5	30¼	10.0	26.4	37.5	45.7				
A-126	32.88	59	5½	31⅜	11.5	29.5	41.8	51.2				
A-125	36.23	65	5	34¾	11.6	28.5	40.4	49.5				
A-124	36.23	65	5½	34¾	12.8	31.4	44.5	54.5				
A-123	36.78	66	5½	35⅜	12.9	31.5	44.5	54.8				
A-122	39.57	71	5½	38⅛	14.6	32.7	46.5					
A-121	41.24	74	6	39¾	16.4	36.9	52.0					
A-147	48.47	87	5½	47	16.4	37.0	52.2					
A-187	50.14	90	5	48¾	15.2	34.0	48.2					
A-120	53.49	96	5	52	15.8	35.5	50.0					
A-256	60.18	108	5	58¾	17.0	38.0						
20806	64.62	116	5½	63⅛	19.4	43.5						
A-119	67.96	122	5¼	66½	19.0	43.0						

2" Pitch

Pattern No.	Pitch Diam. Inches	Teeth	Face	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
A-159	8.36	13	6⅜	6⅝	2.4	11.5	16.2	19.91	23.5	25.7	28.1	30.4†
A-161	8.99	14	6½	7⅜	2.7	13.7	19.2	23.7	28.0	30.5	33.5	36.0
A-156	9.62	15	6½	7⅞	3.0	14.7	20.7	25.5	30.1	33.0	36.1	39.0
A-155	10.25	16	6½	8½	3.3	15.8	22.2	27.3	32.2	35.2	38.7	41.6
A-216	11.51	18	6½	9⅞	3.9	17.8	25.0	30.8	36.3	39.7	43.6	47.0
A-154	12.15	19	6½	10½	4.4	18.6	26.2	32.3	38.0	41.6	45.7	49.2
A-290	12.79	20	6¾	11⅛	4.9	20.2	28.5	35.0	41.2	45.2	49.5	53.5
A-189	13.41	21	6⅜	11¾	5.0	20.0	28.2	34.7	41.0	44.7	49.0	53.0
A-231	14.69	23	6	13	5.3	20.3	28.7	35.3	41.6	45.5	50.0	54.0
A-197	15.30	24	6	13⅝	5.6	21.0	29.7	36.5	43.0	47.0	50.8	55.8
A-227	15.95	25	6	14¼	5.9	21.7	30.6	37.6	44.5	48.6	53.2	57.5
A-153	16.59	26	6½	14⅞	6.7	24.3	34.3	42.2	49.7	54.5	59.8	64.3‡
A-152	21.67	34	6½	20	9.3	29.9	42.1	51.9	61.0			

*Multiply Horse Power by 2.0 for Cast Iron—Cut Teeth.
Multiply Horse Power by 2.5 for Cast Steel—Cast Teeth.
Multiply Horse Power by 5.0 for Cast Steel—Cut Teeth.
†R. P. M. Limit for Cast Teeth. ‡R. P. M. Limit for Cut Teeth.
See also "Horse-power and Speeds," page 551.
NOTE: Always use the Horsepower Rating of the smaller Gear of a pair.

Transmission Machinery

Spur Gears

For List Price—See Price List Bulletin

2″ Pitch—Continued

Pattern No.	Pitch Diam. Inches	Teeth	Face	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth*							
					10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
A-226	23.58	37	6	21⅞	9.5	29.3	41.3	50.8	60.0			
A-245	29.30	46	6	27⅝	12.4	33.8	47.6	58.7				
29524	31.85	50	6	30¼	12.6	36.0	50.2	61.8				
A-151	33.76	53	6	32⅛	14.4	36.8	52.0	63.9				
20627	36.94	58	6	35¼	16.1	29.1	55.0	68.0				
A-278	37.57	59	6	36	16.4	39.3	55.2	68.1				
A-248	41.39	65	6	39¾	18.6	41.7	58.9					
A-232	45.21	71	6	43⅝	19.5	43.6	61.5					
A-150	48.41	76	6	46¾	20.3	45.6	64.2					
A-225	51.58	81	6	50	21.2	47.2	66.5					
A-196	52.85	83	6	51¼	21.4	48.0	67.5					
A-297	57.30	90	6	55⅝	22.3	50.1	70.8					
A-149	60.49	95	6	58⅞	23.0	51.5						
A-215	64.30	101	6	62⅝	24.0	53.8						
A-160	71.94	113	6	70⅜	25.6	57.3						
						†	‡					

2¼″ Pitch

Pattern No.	Pitch Diam. Inches	Teeth	Face	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth*							
					10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
												†
A-260	10.11	14	7½	8¼	3.9	18.8	26.5	32.5	38.5	42.0	46.0	50.0
A-286	15.81	22	7½	14	8.0	29.3	41.5	50.8	60.0	65.8	72.0	78.0‡
20807	38.70	54	7	36⅞	23.2	52.0	73.5					
A-267	48.00	67	7	46⅛	26.4	59.0	83.5					
A-261	78.07	109	7	76¼	35.0	78.5						

2½″ Pitch

Pattern No.	Pitch Diam. Inches	Teeth	Face	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth*							
					10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
												†
A-289	11.23	14	8	9⅛	5.5	23.5	33.3	40.6	48.2	52.7	57.7	62.1
A-285	12.00	15	7¾	10	5.6	24.5	34.7	42.5	50.3	55.0	60.0	65.0
A-291	12.00	15	8	10	5.8	25.3	35.8	43.9	52.0	56.8	62.0	67.0
A-277	14.30	18	8	12⅜	7.5	30.6	43.3	53.0	62.6	68.5	75.0	81.0‡
A-243	19.15	24	7½	17⅛	10.9	37.0	52.0	63.8	75.5	82.5		
9281	32.67	41	7½	30⅝	21.1	54.6	77.0	94.5				
13551	33.44	42	7½	31⅜	21.8	55.3	78.2	96.0				
A-164	42.99	54	7	41	27.1	61.0	86.0					
A-242	60.50	76	7½	58¼	35.5	80.0						
A-276	71.63	90	7½	69⅝	39.0	87.5						

*Multiply Horse Power by 2.0 for Cast Iron—Cut Teeth.
Multiply Horse Power by 2.5 for Cast Steel—Cast Teeth.
Multiply Horse Power by 5.0 for Cast Steel—Cut Teeth.
†R. P. M. Limit for Cast Teeth. ‡R. P. M. Limit for Cut Teeth.
See also "Horsepower and Speeds," page 551.
NOTE: Always use the Horsepower Rating of the smaller Gear of a pair.

Spur Gears

For List Price—See Price List Bulletin

2¾″ Pitch

Pattern No.	Pitch Diam. Inches	Teeth	Face	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
A-244	8.89	10	8	6¾	3.8	18.2	26.7	31.6	37.2	41.0	44.7	48.0
A-179	10.62	12	8½	8⅜	5.4	20.5	29.0	35.7	42.0	46.4	50.5	54.4
A-282	11.48	13	8½	9¼	5.7	24.6	34.8	43.0	50.5	55.5	60.5	65.1
A-171	12.35	14	8½	10⅛	6.6	28.7	40.6	50.0	59.0	65.0	71.0	76.1
A-247	13.22	15	8	11	6.9	29.2	41.3	60.8	60.0	66.0	72.0	77.4
A-207	15.84	18	8	13⅝	9.2	35.2	50.0	61.2	72.0	79.5	86.5	93.3
A-169	19.32	22	8	17⅛	12.6	42.2	60.0	73.5	86.5	95.5		
A-183	28.03	32	8½	25⅞	20.4	60.2	85.5	105.0	124.0			
A-206	38.54	44	8	36⅜	31.5	70.5	100.0					
A-180	48.17	55	8	46	36.0	80.5	114.0					
A-168	57.79	66	8	55⅝	40.3	90.0						
A-281	66.50	76	8	64⅜	43.7	97.5						
A-170	74.42	85	8	72⅛	46.5	104.0						

3″ Pitch

Pattern No.	Pitch Diam. Inches	Teeth	Face	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
20561	9.71	10	9	7⅜	5.5	23.3	33.0	40.5	48.0	52.0	57.0	61.8
A-174	14.43	15	9½	12	9.8	39.5	56.0	68.5	81.1	88.5	97.0	104.0
A-198	22.98	24	9½	20½	19.9	61.1	87.0	106.0	126.0			
A-212	26.79	28	9	24⅜	23.1	65.3	92.8	114.0	134.0			
A-211	40.14	42	9	37¾	39.0	87.0	124.0					
A-173	84.05	88	9	81⅝	61.0	136.0						
20560	95.51	100	9	93⅛	65.3	146.6						

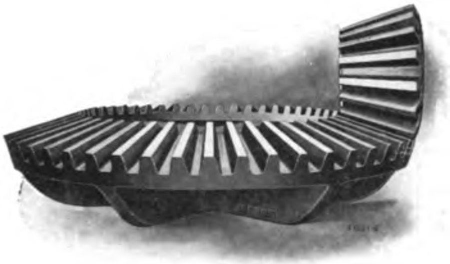
4″ Pitch

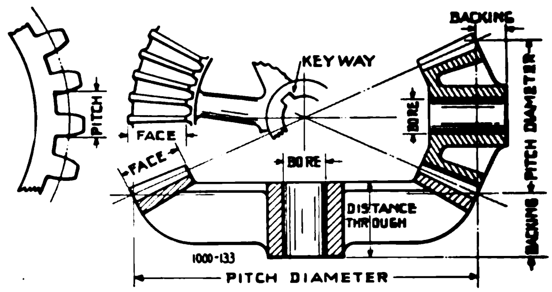
Pattern No.	Pitch Diam. Inches	Teeth	Face	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
A-221	16.71	13	12¾	13⅝	19.0	65.0	92.0	112.0	133.0	145.0	159.0	
A-233	19.23	15	12½	16⅛	22.9	80.0	113.0	138.0	164.0	179.0		
A-220	24.30	19	12	21¼	24.0	97.5	137.0	168.0	200.0			
A-209	30.64	24	12	27½	44.7	120.0	169.0	207.0				
A-208	71.34	56	12	68¼	96.0	215.0						
A-219	84.06	66	12	81	106.0	237.0						
A-252	108.25	85	12	105⅛	123.0	275.0						

*Multiply Horse Power by 2.0 for Cast Iron—Cut Teeth.
Multiply Horse Power by 2.5 for Cast Steel—Cast Teeth.
Multiply Horse Power by 5.0 for Cast Steel—Cut Teeth.
†R. P. M. Limit for Cast Teeth. ‡R. P. M. Limit for Cut Teeth.
See also "Horsepower and Speeds," page 551.
NOTE: Always use the Horsepower Rating of the smaller Gear of a pair.

Transmission Machinery

Bevel Gears





For List Price—See Price List Bulletin

½″ Pitch

Pattern No.	Pitch Diameter In.	Teeth	Face	Proportion	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power and R. P. M. for Pinions only Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
6138	5.10	32	7/8	2.00	1 3/8	1 3/4	3/8	3/4	3	.023	.115	.23	.35	.40	.47	.53	.57
6139	2.56	16	7/8		1	1 3/4	1/4	1	1 1/4								

¾″ Pitch

Pattern No.	Pitch Diameter In.	Teeth	Face	Proportion	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power and R. P. M. for Pinions only Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
B-111	12.18	51	2 1/4	3.00	3	3 1/4	2	2 1/4	7 5/8	.14	.70	1.4	1.8	2.2	2.5	2.6	† 3.0
B-112	4.08	17	2 1/4		1 1/4	3 1/4	1/4	2 1/4	1 7/8								
B-109	14.09	59	2	3.93	3 1/2	3 1/4	2 1/4	2	9 7/8	.11	.55	1.1	1.4	1.6	1.9	2.0	2.3
B-110	3.61	15	2		1 1/2	3 1/4	1/4	2	1 3/4								
B-1	16.00	67	1 3/4	3.94	3 1/8	3 1/4	1 3/4	1 7/8	12	.12	.60	1.2	1.5	1.8	2.1	2.2	2.5
B-2	4.08	17	1 3/4		1 11/16	3 1/4	5/16	1 3/4	2 3/8								

1″ Pitch

Pattern No.	Pitch Diameter In.	Teeth	Face	Proportion	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power and R. P. M. for Pinions only Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
B-21	7.66	24	2	2.00	3 3/16	3 5/8	11/16	1 3/8	3 3/8	.12	.63	1.2	1.6	1.9	2.2	2.3	2.6
B-22	3.86	12	2		2 1/8	3 5/8	1/2	2	1 3/8								
B-19	7.66	24	2	1.85	3 3/16	3 5/8	11/16	1 5/8	3 3/8	.15	.75	1.5	1.9	2.2	2.6	2.7	3.1
B-20	4.18	13	2		2 1/16	3 5/8	5/16	1 7/8	1 5/8								
B-23	9.88	31	2	2.06	3 3/8	3 5/8	1 3/4	2	15 1/2	.19	.95	1.7	2.1	2.6	3.2	3.3	† 3.6
B-24	4.81	15	2		2 1/8	3 5/8	1/2	2	2 1/8								
B-145	9.88	31	2	1.63	3	3 5/8	1 3/8	2	5 5/8	.28	1.4	2.4	2.9	3.4	4.0	4.2	4.7
B-146	6.07	19	2		3 5/16	3 5/8	7/16	1 7/8	2 7/8								
B-17	11.79	37	2 1/2	3.08	3 3/8	3 5/8	2 1/4	2 1/2	9 5/8	.16	.80	1.6	2.1	2.5	2.9	3.0	3.4
B-18	3.86	12	2 1/2		1 1/2	3 5/8	2 1/4	2 3/8	1 5/8								
20659	12.75	40	2 1/2	1.73	7 7/8	3 5/8	1 3/4	2 1/2	7 5/8	.46	2.3	3.4	4.1	5.3	5.7	6.2	6.3
20660	7.34	23	2 1/2		1 3/4	3 5/8	11/16	2 9/16	3 3/4								
B-15	16.24	51	2	2.13	3 1/2	3 5/8	1 7/8	2	11 3/4	.42	2.1	3.1	3.7	4.8	5.2	5.6	6.2
B-16	7.66	24	2		2 1/2	3 5/8	3/8	1 7/16	4 1/2								
B-13	17.83	56	2 1/2	2.95	3 7/16	3 5/8	2 5/16	2 1/2	12 1/2	.36	1.8	3.1	3.9	4.2	5.3	5.9	‡
B-14	6.08	19	2 1/2		1 7/8	3 5/8	1/2	2 1/2	3 1/4								
B-11	20.38	64	2	4.00	3 11/16	3 5/8	2 5/16	2	16	.23	1.1	2.1	2.6	3.2	3.6		
B-12	5.13	16	2		1 7/8	3 5/8	1/4	2	3								
432	24.20	76	2 1/2	4.00	3 11/16	3 5/8	2 11/16	2 1/2	19	.37	1.8	3.1	3.9	4.6			
433	6.08	19	2 1/2		1 3/8	3 5/8	5/16	2 9/16	3 1/2								
B-117	27.06	85	2 1/2	6.54	4 1/8	3 5/8	3	2 1/2	21 3/4	.21	1.0	2.1	2.7	3.2			
B-118	4.18	13	2 1/2		1 1/4	3 5/8	1/8	2 1/2	2 1/4								
15865	28.97	91	2 1/2	6.06	3 7/8	3 5/8	3	2 3/4	23 3/4	.30	1.5	2.7	3.3				
15866	4.81	15	2 3/4		1 5/16	3 7/8	5/16	2 3/4	2 3/4								

*Multiply listed Horse Power of Pinions by 2.0 for Cast Iron—Cut Teeth; by 2.5 for Cast Steel—Cast Teeth; or by 5.0 for Cast Steel—Cut Teeth.
Speed Limit of the Larger Gear of a pair, in cast teeth (†); in cut teeth (‡). NOTE: See "Horsepower and Spee..." page 551.
§The Standard Backing and Standard Distance Through provide ample space for set screws.
**Minimum Backing and Minimum Distance Through indicate the smallest Hub Dimensions possible to be furnished.

Bevel Gears

For List Price—See Price List Bulletin

1¼″ Pitch

Pattern No.	Pitch Diameter In.	Teeth	Face	Proportion	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
B-133	9.58	24	3	1.5	2 11/16	4 1/4	11/16	2 1/8	3 1/2	.46	2.3	3.7	4.9	5.6	6.4	7.0	7.3
B-134	6.41	16	3		2	4 1/4	5/8	2 5/8	2 1/4								
B-101	11.96	30	3	1.50	3 1/4	4 1/4	7/8	1 7/8	5 7/8	.69	3.4	5.2	6.2	7.9	8.6	9.3	10.2
B-102	7.99	20	3		1 11/16	4 1/4	7/16	2 3/4	3 5/8								
B-137	11.96	30	3	2.00	3 7/16	4 1/4	11/16	1 3/4	5 3/4	.42	2.1	3.6	4.4	5.2	6.0	6.7	7.0
B-138	6.01	15	3		1 7/8	4 1/4	7/16	2 11/16	2 1/4								
B-99	15.53	39	3	3.00	3 3/4	4 1/4	7/8	1 3/8	8 1/2	.36	1.8	3.0	4.0	4.8	5.3	5.9	6.2
B-160	5.22	13	3		1 1/2	4 1/4	1/4	3	2 1/4								
B-129	16.33	41	3	1.40	3 1/16	4 1/4	1 7/8	3 1/16	10 3/8	1.2	5.3	7.4	9.8	11.2	12.4	14.0	15.1
B-130	11.96	30	3		2	4 1/4	5/8	2 5/8	7								
B-43	16.72	42	3	3.82	4 1/4	4 1/4	3 1/8	3 1/8	9 1/2	.29	1.4	2.9	3.7	4.4	5.1	5.3	
B-44	4.44	11	3		1 9/16	4 1/4	9/16	3	1 3/4								
B-135	17.92	45	3	3.00	4 1/8	4 1/4	2 7/8	3	11 1/2	.44	2.2	3.7	4.6	5.5	6.3	6.9	
B-136	6.01	15	3		1 9/16	4 1/4	9/16	3	3								
B-41	17.92	45	3	1.96	3 9/16	4 1/4	2 1/16	3	11 1/4	.88	3.8	6.2	7.9	9.2	11.0	11.1	
B-42	9.17	23	3		1 11/16	4 1/4	1/2	2 11/16	5								
540	18.32	46	3	2.00	3 9/16	4 1/4	2 3/8	3 1/16	11 7/8	.88	3.8	6.2	7.9	9.2	11.0	11.1	
539	9.18	23	3		1 7/8	4 1/4	5/8	3	5								
B-39	19.91	50	3 1/4	1.25	2 11/16	4 1/4	1 11/16	3 1/4	13 1/2	2.0	7.4	10.8	13.2	14.8	17.2		
B-40	15.93	40	3 1/4		2 1/4	4 1/4	1 1/4	3 1/4	10 1/4								
B-37	19.91	50	3	2.77	4 1/16	4 1/4	2 3/4	2 11/16	13 1/2	.61	3.0	4.6	6.2	7.1	8.0		
B-38	7.20	18	3		1 5/8	4 1/4	3/8	3	3 5/8								
B-107	23.88	60	3 1/2	3.30	4 1/16	4 1/4	3 9/16	3 1/2	16 3/4	.71	3.5	7.2	8.2				
B-108	7.20	18	3 1/2		1 1/16	4 1/4	1/4	3 7/16	3 3/4								
B-35	24.28	61	3	4.06	4 9/16	4 1/4	3 9/16	3	17 7/8	.48	2.4	4.0	5.0	5.9			
B-36	6.01	15	3		1 5/8	4 1/4	9/16	2 11/16	3 3/8								
B-105	27.46	69	3	2.10	4	4 1/4	2 3/4	3	21	1.4	7.0	8.7	10.8	12.2			
B-106	13.15	33	3		2	4 1/4	3/4	3	8 5/8								
B-33	27.07	68	3	2.95	4 1/4	4 1/4	3	3	20 7/8	.86	4.3	6.0	7.7	9.0			
B-34	9.17	23	3		1 1/2	4 1/4	3/8	3 1/8	5 7/8								
B-31	30.26	76	3	5.06	4 11/16	4 1/4	3 3/8	2 11/16	23 1/2	.48	2.4	4.0	5.0				
B-32	6.01	15	3		1 7/16	4 1/4	9/16	3	3 1/2								
B-29	32.23	81	3 1/2	4.05	4 1/4	4 1/4	3 1/2	3 1/2	25	.84	4.2	6.3	7.8				
B-30	7.99	20	3 1/2		1	4 1/4	1/4	3 1/2	4 3/4								
B-27	33.43	84	3 1/2	3.36	4 1/4	4 1/4	3 1/2	3 1/2	26 1/4	1.1	5.3	8.0	9.9				
B-28	9.97	25	3 1/2		1 5/8	4 1/4	3/8	3 1/2	9 1/4								
B-25	36.21	91	3 1/4	6.06	4 11/16	4 1/4	3 11/16	3 1/2	29 1/2	.52	2.6	4.4	5.5				
B-26	6.01	15	3 1/4		1 1/4	4 1/4	1/4	3 1/4	3 1/2								
8110	42.18	106	3 1/2	7.07	4 1/2	4 1/4	3	2 3/4	35	.60	3.0	5.1					
8111	6.01	15	3 1/4		11/16	4 1/4	9/16	3 1/4	3 5/8								

1½″ Pitch

Pattern No.	Pitch Diameter In.	Teeth	Face	Proportion	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
B-69	17.69	37	4 1/2	1.95	4 3/8	5 7/8	1 1/16	2 9/16	8 1/2	1.3	6.5	11.2	14.8	17.8	19.8	21.8	
B-70	9.11	19	4 1/2		2 1/16	5 7/8	9/16	4 1/4	3 1/2								
B-153	17.69	37	4 1/2	1.48	4	5 7/8	2 3/4	4 5/8	9 1/4	1.9	8.3	11.8	16.2	17.6	19.5	22.0	
B-154	11.97	25	4 1/2		2 1/16	5 7/8	11/16	4 1/8	5 1/2								
B-65	23.41	49	4 1/2	3.06	5 3/8	5 7/8	4	4 1/2	14 1/4	1.0	5.1	7.7	9.2	11.8			
B-66	7.69	16	4 1/2		1 11/16	5 7/8	9/16	4 3/8	3 1/2								
B-103	23.41	49	4 1/2	2.45	5 1/8	5 7/8	3 3/4	4 1/2	14 1/4	1.5	7.5	11.0	13.7	16.8			
B-104	9.59	20	4 1/2		2	5 7/8	1/2	4 3/8	4 1/2								
B-63	23.41	49	4 1/2	2.04	4 11/16	5 7/8	3 9/16	4 1/2	14 1/2	1.9	8.3	11.8	16.2	17.7			
B-64	11.49	24	4 1/2		1 1/16	5 7/8	1/16	4 1/4	6 1/4								
B-61	23.41	49	4 1/2	4.08	5 3/4	5 7/8	4 3/8	4 1/2	14 1/4	.68	3.4	5.8	7.4	8.2			
B-62	5.80	12	4 1/2		1 11/16	5 7/8	9/16	4 1/2	2 3/8								

Horse Power and R. P. M. for Pinions only, Cast Iron—Cast Teeth*

*Multiply listed Horse Power of Pinions by 2.0 for Cast Iron—Cut Teeth; by 2.5 for Cast Steel—Cast Teeth; or by 5.0 for Cast Steel—Cut Teeth.

Speed Limit of the Larger Gear of a pair, in Cast Teeth (†); in Cut Teeth (‡).

NOTE: See "Horsepower and Speeds", page 551.

§The Standard Backing and Standard Distance Through provide ample space for set screws.

**Minimum Backing and Minimum Distance Through indicate the smallest Hub Dimensions possible to be furnished.

Transmission Machinery

Bevel Gears

For List Price—See Price List Bulletin

1½" Pitch

Pattern No.	Pitch Diameter In.	Teeth	Face	Proportion	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power and R. P. M. for Pinions only* Cast Iron—Cast Teeth 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
19346	24.36	51	3	3	8½	5⅞	5 11/16	3 1/16	17¾	.82	4.1	6.1	7.7	9.0			
B-149	8.16	17	3		3⅜	5⅞	7/16	2 11/16	4⅛								
B-57	26.27	55	4	1.60	4½	5⅞	3⅛	4½	17¾	3.1	11.7	18.0	21.0	25.0			
B-58	16.26	34	4½		2½	5⅞	1⅛	4½	9⅝								
B-67	28.66	60	4½	1.50	4⅜	5⅞	3	4½	20	3.9	13.6	19.4	23.2				
B-68	19.13	40	4½		2⅝	5⅞	1¼	4½	12¼								
B-55	29.14	61	4½	4.06	5⅞	5⅞	4½	4½	19⅞	.99	4.9	7.4	9.7				
B-56	7.21	15	4½		1⅝	5⅞	5/16	4 5/16	3½								
B-53	30.57	64	4½	3.05	5 1/16	5⅞	3 11/16	4⅜	21⅜	1.7	7.9	12.0	14.8				
B-54	10.06	21	4½		1 11/16	5⅞	5/16	4⅜	5½								
B-121	30.57	64	4½	1.60	4⅜	5⅞	3	4½	21¾	3.9	13.8	19.8	23.7				
B-122	19.13	40	4½		2¾	5⅞	1⅜	4½	12⅜								
B-73	32.00	67	4½	5.15	6	5⅞	4⅝	4½	22¾	.83	4.1	7.0	8.2				
B-74	6.27	13	4½		1 5/16	5⅞	5/16	4½	3¼								
B-59	33.44	70	4	2.5	5½	5⅞	4⅛	4½	25	7.3	9.3	13.9	17.4				
B-60	13.41	28	4		2½	5⅞	⅜	3¾	8½								
B-51	35.83	75	4½	2.03	4 5/16	5⅞	3 5/16	4½	26⅝	3.5	12.8	19.4	22.2				
B-52	17.69	37	4½		2 5/16	5⅞	11/16	4½	11¾								
B-71	36.31	76	4½	5.90	6 3/16	5⅞	4 11/16	4½	27	.84	4.2	7.1	8.3				
B-72	6.27	13	4½		1 11/16	5⅞	¼	4 7/16	3¼								
B-49	36.31	76	4½	5.06	6	5⅞	4⅝	4½	26⅝	1.0	5.1	7.8	8.8				
B-50	7.21	15	4½		1 5/16	5⅞	5/16	4½	4								
B-47	48.39	101	4½	6.73	6¾	5⅞	5⅛	4¼	29⅞	1.0	5.3	7.9					
B-48	7.21	15	4½		1⅝	5⅞	¼	4½	4¼								
B-45	48.39	101	4½	4.04	6	5⅞	4½	4⅜	39⅛	2.2	9.7	13.6					
B-46	11.97	25	4½		1⅞	5⅞	¼	4¼	7¾								
												†	‡				

1¾" Pitch

Pattern No.	Pitch Diameter In.	Teeth	Face	Proportion	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power and R. P. M. for Pinions only Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
																	†
B-85	10.63	19	3½	1.73	4⅞	6⅜	1⅛	2⅝	3⅝	.58	2.9	4.9	6.1	7.2	8.3	9.1	9.7 ‡
B-86	6.21	11	3½		3½	6⅜	⅜	3¼	1⅝								
B-83	17.86	32	5	1.20	3 11/16	6⅜	1⅛	3 11/16	8¾	3.2	11.8	18.8	22.1	26.2	28.7	29.5	
B-84	15.07	27	5		3 5/16	6⅜	1	4 1/16	7⅜								
B-87	18.41	33	5	2.06	5	6⅜	1⅜	2¾	8¼	1.4	6.7	10.6	13.1	16.1	17.3	18.6	
B-88	8.97	16	5		2⅛	6⅜	1¾	5	3½								
12231	24.53	44	5	2.93	5 11/16	6⅜	1½	2 1/16	14¼	1.4	6.7	10.0	12.8	14.8			
12232	8.41	15	5		1⅞	6⅜	⅜	4⅞	3¾								
B-131	26.20	47	5	1.60	4⅞	6⅜	3½	5	16¼	3.9	14.5	21.3	26.2	29.0			
B-132	16.19	29	5		2½	6⅜	¾	4⅝	8¾								
B-113	32.88	59	4	3.93	7	6⅜	4	4	2¼	1.3	5.9	8.7	11.1				
B-114	8.42	15	4		2 11/16	6⅜	4	4	4⅝								
B-81	36.22	65	5	2.95	6⅛	6⅜	4¾	5	25¾	2.8	11.9	17.5	22.0				
B-82	12.30	22	5		1⅞	6⅜	½	5	7								
27774	37.89	68	5	2.83	6	6⅜	5 11/16	6 5/16	27½	3.1	13.0	19.1	24.0				
27773	13.41	24	5		2	6⅜	11/16	5 1/16	7½								
B-79	42.36	76	5	5.06	6¾	6⅜	5½	5⅛	32⅛	1.5	7.4	10.9					
B-80	8.42	15	5		1⅝	6⅜	¼	5	4⅝								
20562	51.26	92	5	5.75	6⅞	6⅜	5½	5	40⅞	1.7	8.0	13.6					
20563	8.97	16	5		1⅝	6⅜	¼	5	5½								
B-77	53.49	96	5	6.40	7	6⅜	5⅝	5	42¾	1.6	7.7	11.2					
B-78	8.42	15	5		1 11/16	6⅝	5/16	5	4¾								
B-75	53.49	96	5	2.90	6⅛	6⅜	4¾	5	43	4.9	15.2	25.5					
B-76	18.41	33	5		2⅛	6⅜	¾	5	12¼								

*Multiply listed Horse Power of Pinions by 2.0 for Cast Iron—Cut Teeth; by 2.5 for Cast Steel—Cast Teeth, or by 5.0 for Cast Steel—Cut Teeth.

Speed Limit of the larger Gear of each pair, in Cast Teeth (†); in Cut Teeth (‡).

NOTE: See "Horsepower and Speeds," page 551.

§The Standard Backing and Standard Distance through provides ample space for set screws.

**Minimum Backing and Minimum Distance Through indicate the smallest Hub Dimensions possible to be furnished.

Transmission Machinery

Bevel Gears

For List Price—See Price List Bulletin

2″ Pitch

Pattern No.	Pitch Diameter In.	Teeth	Face	Proportion	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power and R. P. M. for Pinions only* Cast Iron—Cast Teeth 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
B-151	17.86	28	5	2	6	7½	1½	3	8	1.5	5.6	11.3	14.1	17.2	18.5	19.9	
B-152	8.98	14	5		3	7½	¾	5¼	3½								
B-155	25.46	40	5	2.5	6¾	7½	4¼	5	15	2.2	10.5	15.4					
B-156	10.25	16	5		3¼	7½	¾	5	4⅝								
B-127	31.22	49	5½	2.04	6 5/16	7½	4 5/16	5½	20	4.3	15.9	24.4	28.7	33.5			
B-128	15.32	24	5½		3	7½	¾	5¼	8¼								
B-93	42.04	66	5½	3.47	7½	7½	6	6	30⅛	3.2	13.7	20.3					
B-94	12.15	19	5½		2 7/16	7½	7/16	5½	6⅞								
20812	44.58	70	5	4.35	⅞	7½	4⅝	4¼	34⅛	2.2	10.5	15.4					
20813	10.25	16	5		3	7½	¼	4¾	6								
B-143	46.47	73	6	5.21	7¾	7½	6¼	6	34⅛	2.3	10.6	16.5					
B-144	8.91	14	6½		1 3/16	7½	5/16	6⅝	4⅞								
B-91	47.77	75	6	3.95	7½	7½	6	6	34¾	3.5	15.0	23.7					
B-92	12.15	19	6		1⅞	7½	¼	5⅞	7								
B-115	53.49	84	5½	6.46	8½	7½	6⅜	5¾	42	1.8	9.2	13.3					
B-116	8.36	13	5½		2 5/16	7½	¼	5 7/16	4½								
B-89	60.50	95	6	5.93	8⅛	7½	6⅝	6	48	2.7	9.2						
B-90	10.25	16	6		1 13/16	7½	⅜	6 1/16	6⅛								

2¼″ Pitch

Pattern No.	Pitch Diameter In.	Teeth	Face	Proportion	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power and R. P. M. for Pinions only* Cast Iron—Cast Teeth 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
B-97	21.52	30	7	1.43	5 1/16	8¼	1⅝	4 11/16	8¾	5.5	20.7	31.7	38.5	44.1	48.5		
B-98	15.10	21	7		3	8¼	1 1/16	6 7/16	5½								
B-119	36.55	51	6	1.46	6⅛	8¼	3⅞	6	24¾	10.3	32.1	46.5	54.4				
B-120	25.10	35	6		4¼	8¼	2	6	15¾								
B-95	75.20	105	7	5.00	8⅞	8¼	7⅝	7	57⅞	6.7	24.0						
B-96	15.10	21	7		1 11/16	8¼	⅜	6 11/16	9¼								

3″ Pitch

Pattern No.	Pitch Diameter In.	Teeth	Face	Proportion	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power and R. P. M. for Pinions only* Cast Iron—Cast Teeth 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
B-147	42.05	44	5¼	2	10 5/16	10¾	9¾	5¼	30¼	9.0	30.5	42.8					
B-148	21.08	22	5¼		6⅞	10¾	½	5	12¼								
B-123	80.23	84	9	5.60	11½	10¾	4 13/16	9	61¼	8.3	31.0						
B-124	14.43	15	9		2¼	10¾	1⅛	9	8⅝								

4″ Pitch

Pattern No.	Pitch Diameter In.	Teeth	Face	Proportion	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power and R. P. M. for Pinions only* Cast Iron—Cast Teeth 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
B-141	84.06	66	12	4.40	14	14	12	12	58¾	19.0	61.8						
B-142	19.23	15	12		2 11/16	14	11/16	11⅞	10								

*Multiply listed Horse Power of Pinions by 2.0 for Cast Iron—Cut Teeth; by 2.5 for Cast Steel—Cast Teeth, or by 5.0 for Cast Steel—Cut Teeth.

Speed Limit of the larger Gear of a pair, in Cast Teeth (†); in Cut Teeth (‡).

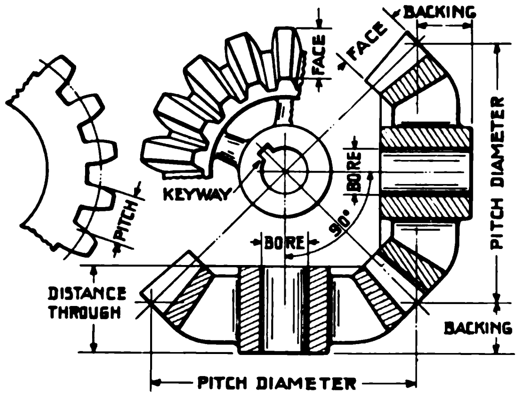
NOTE: "See Horsepower and Speeds", page 551.

§The Standard Backing and Standard Distance through provides ample space for set screws.

**Minimum Backing and Minimum Distance through indicate the smallest Hub Dimensions possible to be furnished.

Transmission Machinery

Miter Gears



For List Price—See Price List Bulletin

¾" Pitch

Pattern No.	Pitch Diam. In.	Teeth	Face	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
C-4	3.13	13	1½	2⅜	3¼	½	1⅜	11/16	.05	.25	.52	.81	.96	1.06	1.16	1.25
C-3	4.08	17	1¼	2⅜	3¼	⅜	1¼	2	.08	.40	.79	.98	1.16	1.27	1.38	1.50†
C-2	10.03	42	1½	2½	3¼	¾	1½	7	.33	1.38	1.95	2.40	2.82	3.10	3.40	4.30
C-1	10.75	45	1¾	2⅜	3¼	⅞	1¾	7⅜	.41	1.70	2.40	2.95	3.50	3.80	4.20	4.50

1" Pitch

Pattern No.	Pitch Diam. In.	Teeth	Face	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
8906	4.49	14	2	2 7/16	3⅝	7/16	1⅞	1 7/16	.12	.60	1.04	1.27	1.50	1.64	1.80	1.94
C-37	5.76	18	1¾	2⅝	3⅝	⅜	1⅜	2⅝	.20	1.00	2.07	2.85	3.00	3.28	3.59	3.86
C-6	6.08	19	2	2½	3⅝	7/16	1 11/16	2⅝	.25	1.27	2.48	3.40	3.60	3.94	4.30	4.64
C-5	6.39	20	2	2 11/16	3⅝	7/16	1½	2¾	.27	1.38	2.60	3.57	3.76	4.13	4.50	4.85
C-28	7.03	22	2	2½	3⅝	1	2⅜	3	.33	1.68	2.85	3.90	4.10	4.50	4.93	5.30

1¼" Pitch

Pattern No.	Pitch Diam. In.	Teeth	Face	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
4870	6.41	16	2½	2⅝	4¼	½	2⅜	2⅝	.39	1.98	4.06	4.98	5.89	6.42	7.02	7.60
C-10	7.99	20	2¼	2 11/16	4¼	7/16	2	4¼	.51	3.17	4.50	5.52	6.52	7.11	7.79	8.40†
C-9	9.97	25	2½	2 11/16	4¼	11/16	2¼	5⅝	.78	4.27	6.04	7.40	8.74	9.57	10.2	11.3
C-32	11.16	28	3½	2 7/16	4¼	11/16	2¾	5⅛	1.25	6.50	9.25	11.3	13.4	14.6	16.0	17.3
C-8	11.96	30	3	2 7/16	4¼	7/16	2½	7	1.18	5.90	8.40	10.3	12.1	13.3	14.5	15.7
C-7	13.95	35	3	2⅝	4¼	7/16	2 7/16	8⅜	1.40	6.60	9.35	11.4	13.5	14.8	16.2	17.5

*Multiply listed Horse Power of Pinions by 2.0 for Cast Iron—Cut Teeth; by 2.5 for Cast Steel—Cast Teeth, or by 5.0 for Cast Steel—Cut Teeth.

Speed Limit, in Cast Teeth (†); in Cut Teeth (‡).

NOTE: See "Horsepower and Speeds," Page 551.

§The Standard Backing and Standard Distance Through provide ample space for set screws.

**Minimum Backing and Minimum Distance Through indicate the smallest Hub Dimensions possible to be furnished.

Miter Gears

For List Price—See Price List Bulletin

1 1/2" Pitch

Pattern No.	Pitch Diam. In.	Teeth	Face	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
5607	7.21	15	3	4 1/16	5 5/8	5/8	2 9/16	2 1/2	.52	1.04	4.54	5.55	6.55	7.18	7.85	8.45
4814	9.59	20	3	4 1/16	5 5/8	11/16	2 1/2	4 3/4	.82	4.23	6.00	7.32	8.68	9.50	10.4	11.2
C-19	10.54	22	3 1/2	3 11/16	5 5/8	9/16	2 3/4	4 3/4	1.10	5.40	7.68	9.40	11.1	12.1	13.3	14.3 †
C-18	11.97	25	3 1/2	4 1/8	5 5/8	5/8	2 5/8	5 5/8	1.30	6.00	8.50	10.4	12.3	13.4	14.6	15.8
C-17	13.87	29	3	4 3/8	5 5/8	5/8	2 3/8	8 3/8	1.46	6.05	8.55	10.4	12.3	13.5	14.8	15.9
C-36	15.30	32	4	3 5/8	5 5/8	5/8	2 7/8	7 3/4	2.00	8.70	12.3	15.0	17.8	19.5	21.4	23.0 †‡
C-16	15.79	33	3	4 1/2	5 5/8	1 5/8	3	10	1.58	6.76	9.40	11.5	13.6	15.0	16.4	17.6
C-15	17.69	37	3 1/2	3 11/16	5 5/8	11/16	2 7/8	11 3/4	2.65	8.40	11.9	14.5	17.1	18.8	20.6	......
C-25	17.69	37	4 1/2	3 1/16	5 5/8	3/4	3 1/16	10	3.33	7.45	10.5	12.9	15.2	16.7	18.3	......
C-14	20.06	42	4	3 5/8	5 5/8	1 7/8	4 1/8	12 5/8	3.54	10.4	14.7	18.0	21.2	23.4	......	......
C-13	23.89	50	4	3 7/8	5 5/8	2	4	16 5/8	4.25	11.8	16.6	20.3	24.0	......	......	......
C-12	25.80	54	4	3 3/4	5 5/8	1 3/8	4	18 5/8	4.65	12.3	17.4	21.2	25.0	......	......	......
C-11	32.48	68	3 1/2	4 1/4	5 5/8	1 7/8	3 1/2	25 1/2	5.24	12.3	17.4	21.2	......	......	......	......

1 3/4" Pitch

Pattern No.	Pitch Diam. In.	Teeth	Face	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
60295	15.63	28	5	3 5/8	6 3/8	7/8	3 5/8	7	3.41	12.8	19.6	25.6	27.3	29.9	30.7	31.8 †
C-22	17.86	32	4 1/2	4 1/8	6 3/8	2 1/8	4 3/8	10	3.96	12.9	18.3	22.4	26.5	28.8	31.6	...... ‡
C-21	23.98	43	5	3 5/8	6 3/8	2 1/4	5	15 1/4	6.30	17.5	24.5	30.4	36.0	39.2	......	......
C-20	28.98	52	6	2 7/8	6 3/8	2 1/2	6	18 7/8	9.35	23.6	33.4	41.0	......	......	......	......

2" Pitch

Pattern No.	Pitch Diam. In.	Teeth	Face	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
C-24	17.86	28	6	3 11/16	7 1/2	1 1/16	4 3/4	7 3/8	5.15	15.4	21.8	26.8	31.7	34.5	37.8	...... †
C-27	18.50	29	6	3 9/16	7 1/2	1 5/16	5 3/8	8 3/4	6.35	15.9	22.5	27.6	32.7	35.5	39.0	...... ‡
C-26	24.22	38	6	4	7 1/2	2 1/2	6	13 7/8	8.70	24.3	34.5	42.3	50.0	......	......	......
C-31	29.94	47	6	4 1/8	7 1/2	2 5/8	6	16 3/8	11.3	28.0	40.0	48.8	......	......	......	......
C-23	33.76	53	6	4 1/8	7 1/2	2 1/2	5 7/8	23 1/4	12.7	30.2	42.8	52.5	......	......	......	......

2 1/4" Pitch

Pattern No.	Pitch Diam. In.	Teeth	Face	§ Standard Backing	§ Standard Distance Thru	** Min. Backing	** Min. Distance Thru	Max. Dia. of Hub or Lugs to Clear Teeth Inches	Horse Power—Cast Iron—Cast Teeth* 10 RPM	50 RPM	100 RPM	150 RPM	200 RPM	250 RPM	300 RPM	350 RPM
C-30	38.70	54	6 1/2	4 5/8	8 1/4	2 7/8	6 1/2	27	18.0	40.4	57.0	......	......	......	......	...... †

*Multiply listed Horse Power of Pinions by 2.0 for Cast Iron—Cut Teeth; by 2.5 for Cast Steel—Cast Teeth, or by 5.0 for Cast Steel—Cut Teeth.

Speed Limit, in Cast Teeth (†); in Cut Teeth (‡).

NOTE: See "Horsepower and Speeds," Page 551.

§The Standard Backing and Standard Distance Through provide ample space for set-screws.

**Minimum Backing and Minimum Distance Through indicate the smallest Hub Dimensions possible to be furnished.

Transmission Machinery

Bolts for Elevators and Conveyors

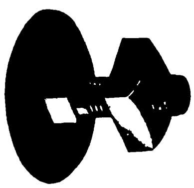
Machine Bolts with Square Heads for General Use

For List Price—See Price List Bulletin

Weight per 100

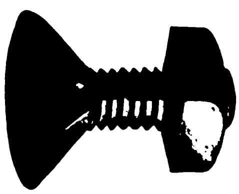
Length In Inches	Diameter in Inches										
	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4
*3/4 to 1 1/2	3.1	5.6	8.3	12.5	17.4	32.4	51.7	....	....	....	....
2	3.8	6.5	9.7	14.4	20.1	36.1	57.4	84.0	130.8	....	....
2 1/2	4.5	7.5	11.2	16.4	22.7	39.9	63.2	92.2	140.6	....	....
3	5.2	8.4	12.7	18.3	25.4	43.6	68.9	100.5	150.4	205	271
3 1/2	5.9	9.4	14.2	20.3	28.0	47.4	74.7	108.7	160.2	220	288
4	6.6	10.3	15.7	22.2	30.7	51.1	80.4	117.0	170.0	234	305
4 1/2	7.3	11.3	17.2	24.2	33.3	54.9	86.2	125.2	179.8	249	322
5	8.0	12.2	18.7	26.1	36.0	58.6	91.9	133.5	189.6	263	339
5 1/2	8.7	13.2	20.2	28.1	38.6	62.6	97.7	141.7	199.4	278	356
6	9.4	14.1	21.7	30.0	46.3	66.1	103.4	150.0	209.2	292	373
6 1/2	10.1	15.1	23.2	32.0	43.9	69.9	109.2	158.2	219.0	307	390
7	10.8	16.0	24.7	33.9	46.6	73.6	114.9	166.5	228.8	321	407
7 1/2	11.5	17.0	26.2	35.9	49.2	77.4	120.7	174.7	238.6	336	424
8	12.2	17.9	27.7	37.8	51.9	81.1	126.4	183.0	248.4	350	441
9	....	....	30.7	41.7	56.2	88.6	137.9	199.5	268.0	379	475
10	....	....	33.7	45.6	62.5	96.1	149.4	216.0	287.6	408	509

3/8" x 1" Bolts and under have Square Nuts.
*Weight given for 1 1/2" length.



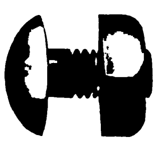
Excelsior Head

Excelsior Bolts are carried in 3/16", 1/4", 5/16", and 3/8" diameter, and in lengths of 3/4", 7/8", 1", 1 1/4", 1 1/2", 1 3/4", and 2".



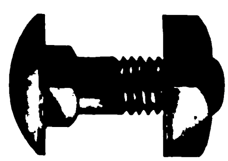
Reliance Head

Reliance Bolts can be furnished 3/16" or 1/4" diameter, and in the same lengths as the Excelsior Bolt.



Button Head

Button Headed Bolts can be furnished in same diameters and lengths as the Reliance Bolts.

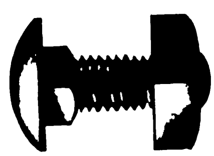


Carriage Bolt

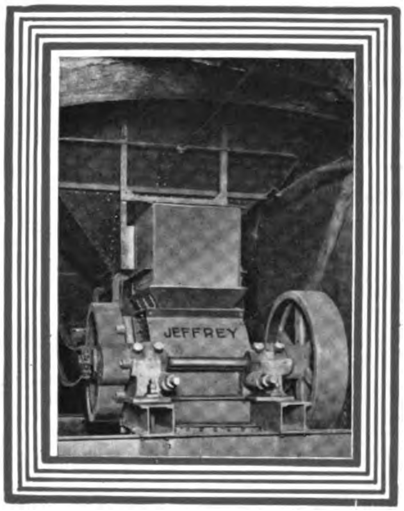
Carriage Bolts are carried in 3/16", 1/4", 5/16", 3/8", and 1/2" diameter lengths of 7/8", 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/4", 2 1/2", 3", 3 1/2" and 4".

Oval Head Bolt—Peerless Type

A large Oval Head Bolt especially adapted to Elevators handling Fertilizer and Acid Phosphate. Carried in stock in one size only, i.e., 3/8" x 1". Other sizes can be furnished if ordered in quantities.



Crushers



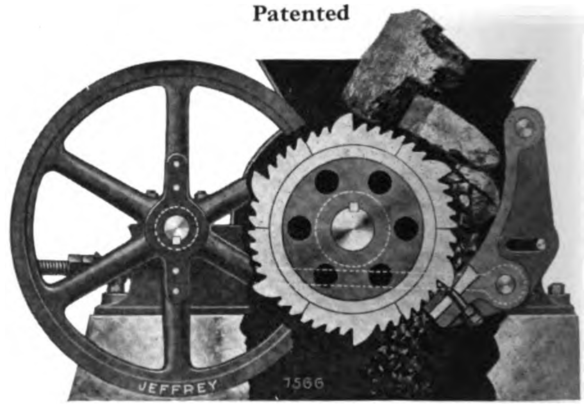
Section 19

Single Roll Crusher

18″ x 18″ Crusher	24″ x 24″ Crusher	30″ x 30″—36″ x 36″
8″ Maximum Lump	Average Conditions	36″ x 54″ Crushers
Small Capacities	14″ Maximum Lump—50 Tons per Hour	Big Lumps
		Large Capacities

Reduces Lump Coal to Any Desired Size in a Single Operation

Patented



Cross-section view of Jeffrey Single Roll Crusher illustrating how it reduces lump coal in a single operation

THE Jeffrey Single Roll Crusher is built in five sizes, as given above. The 18″ x 18″ which takes a maximum lump of 8″ is used for small capacities. The 24″ x 24″ Crusher meets average requirements such as Boiler Plants, Gas Producer Plants and Pulverized Coal Plants. It takes a maximum lump of 14″ and has a capacity of 50 tons per hour.

The larger Single Roll Crushers, 30 x 30″ 36″ x 36″ and 36″ x 54″ take run-of-mine coal and have large capacities. These machines are generally for service at the mine in reducing the entire output to a size suitable for use with mechanical stokers either in boiler house or locomotive service.

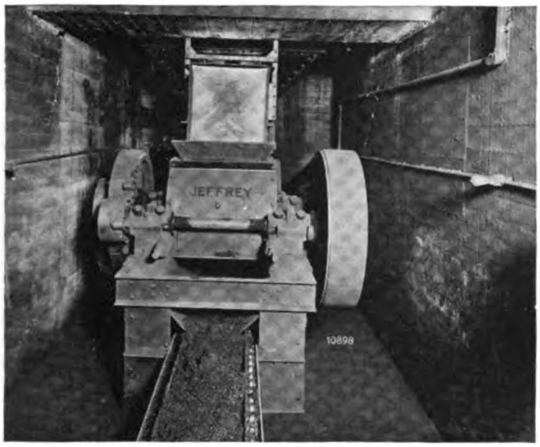
Such materials as Salt, Bone and Alum are also being successfully reduced by Jeffrey Single Roll Crushers.

1¼″ and under for Automatic Stokers

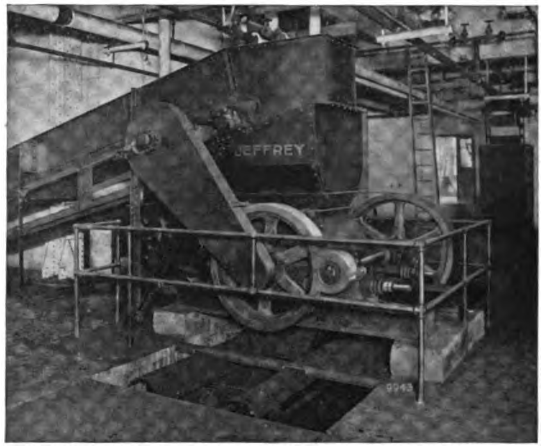
Here is shown a uniform product of 1¼″ and under for automatic stokers, and 6″ and under for hand firing, both obtainable with the Jeffrey Single Roll Crusher.

6″ and under for Hand Firing

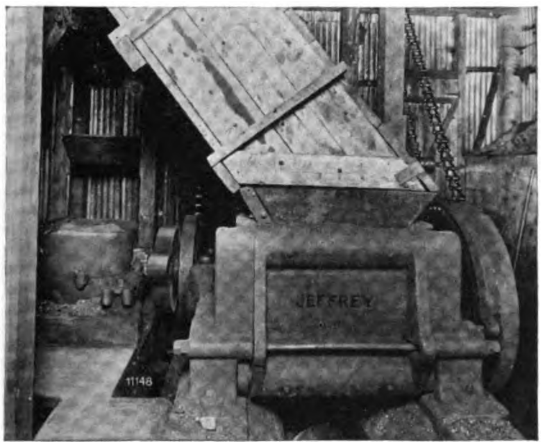
Typical Installations of Jeffrey Single Roll Crushers



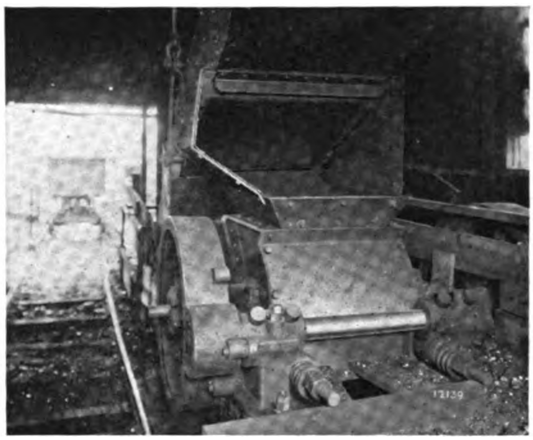
Crusher in operation in Power House of a plant manufacturing sewing machines. Note uniformity and fineness of crushed coal in this Jeffrey Steel Apron Conveyor.



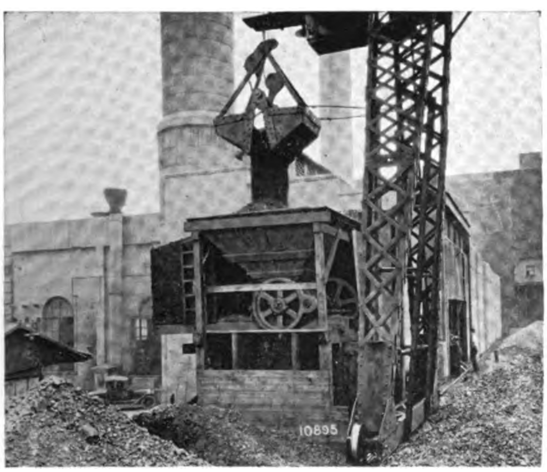
This Crusher installed in a Refining Company is driven by a steam engine. An Apron Conveyor operating from under a track hopper feeds the crusher, which in turn discharges into a Pivoted Bucket Conveyor.



Crusher installed in a large Central Station. When reduced, coal passes thru a Spiral Conveyor to Bucket Elevator which discharges the Coal into the bunkers.



An installation in the Tipple Building of a coal mine for the production of fine coal.

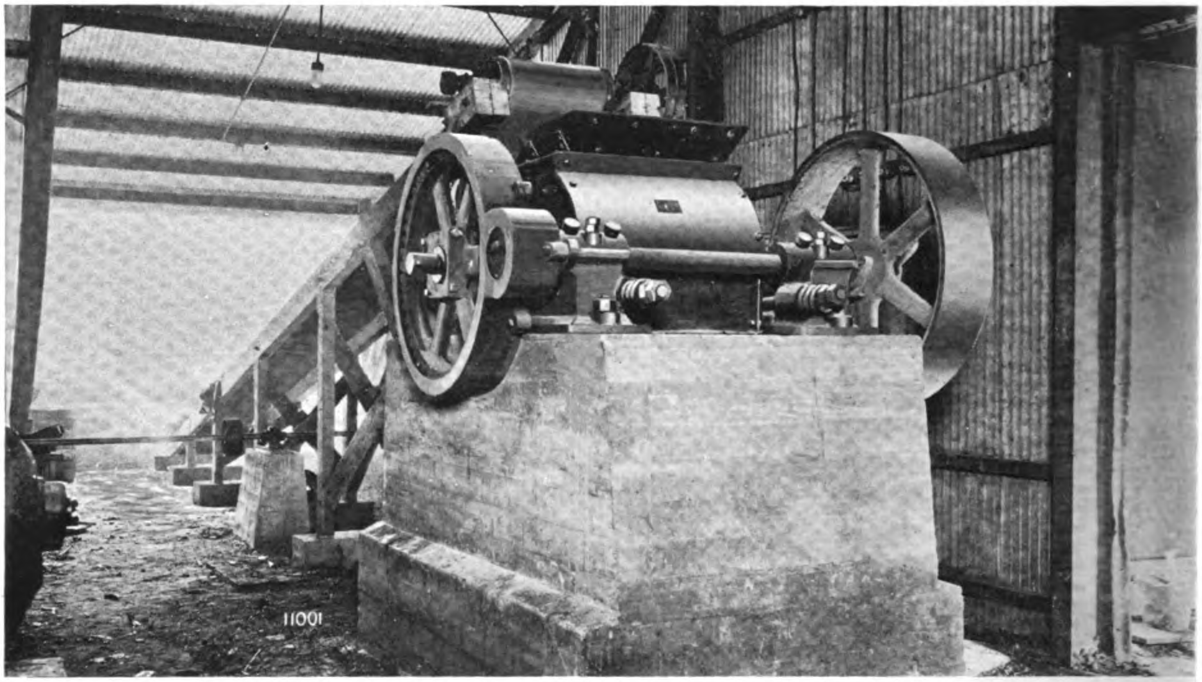


A Crusher installed for grab bucket feed in the plant of a Street Railway Company.

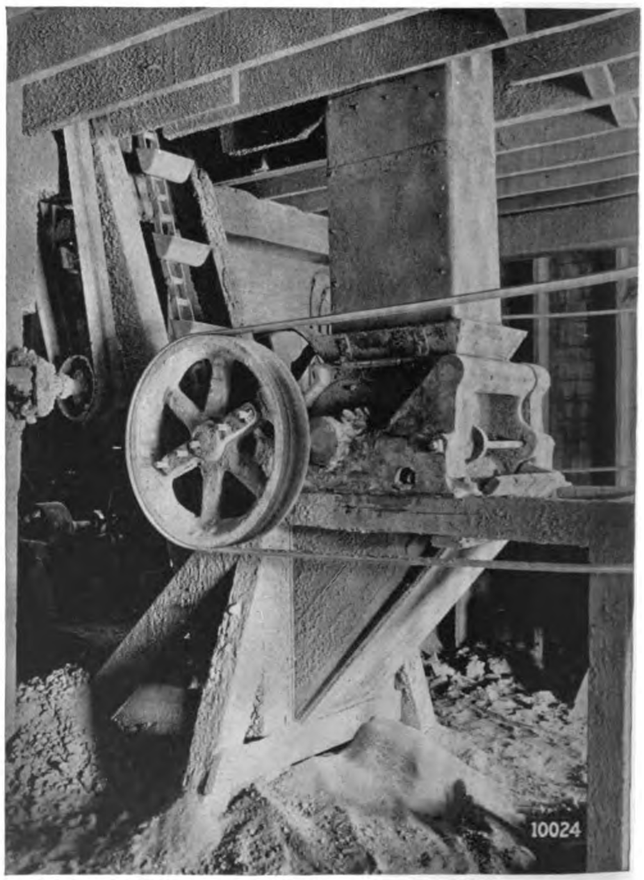
Jeffrey Single Roll Crusher meets the requirements of the Railway Coaling Station.

Single Roll Crusher

Reducing Other Substances with a Jeffrey Single Roll Crusher



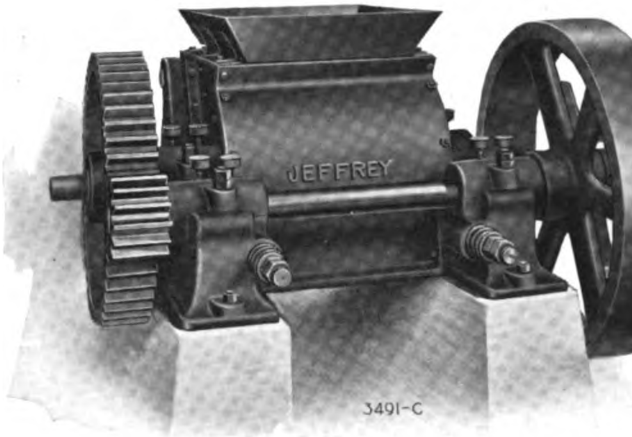
BESIDES the Crushing of Coal, Jeffrey Single Roll Crushers lend themselves equally well to the reduction of Salt, Alum, Bone and similar substances. Our laboratory will be glad to make tests on other substances for you, if you will send sufficient large samples of the material to be reduced.



The illustration at the top shows a Jeffrey Single Roll Crusher reducing bones in a large glue plant, while the lower illustration is that of a crusher installed in a Fertilizer Plant, reducing alum. A Jeffrey Bucket Elevator is used to carry the material away when reduced.

Single Roll Crusher

Construction and Operation

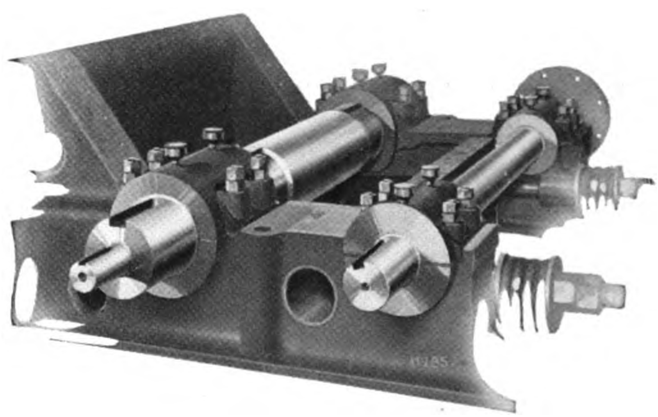


Front view of Jeffrey Single Roll Crusher, showing Cut Tooth Steel Gears and Safety Guard.

THE construction of the Jeffrey Single Roll Crusher is very rigid, and it will stand the most severe service. Our design may be called almost brutal, since the care the crushers receive and the use to which they are put calls for more brute strength and endurance than for any over-refinement of parts. And yet, with much care, these machines have been well proportioned.

The design is extremely simple, consisting of a heavy cast iron frame in which are mounted a crushing roll and a breaker plate. The breaker plate is hinged at its upper end and is held in position by a pair of adjustable tension rods at the lower edge by means of which the clear opening between the breaker plate shoe and the surface of the roll can be varied to give any product required.

A clamping effect is produced by the proper adjustment of the cross-rod bolts between the side frames, whereby sufficient friction is brought upon the hinged breaker plate to eliminate chattering and to assist the safety device.

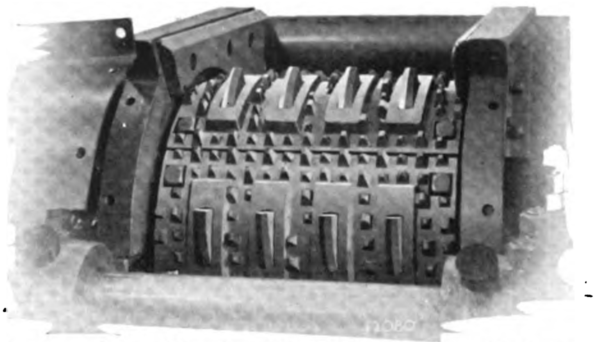


Roll Shaft and Countershaft of large diameter—Roll Shaft Bearings have renewable bronze bushings. Countershaft bearings have renewable babbitt bushings—Grease cups provide lubrication.

The frame is of the box type section, very stiff and rigid. All joints are machined, as also are the teeth of the heavy steel gears. All parts are made to jig so that repairs can readily be furnished. The Main or Roll Bearings are equipped with readily renewable bronze liners of special composition, while the countershaft bearings are supplied with renewable die cast babbitted bushings. Lubrication is obtained through large compression grease cups. Because of the speed of operation, this crusher is especially adapted for electric motor drive; a belt from the motor pulley to the band wheel on the crusher being usually all that is required. When space is very limited, the pulleys and belt are replaced by a pair of gears, having the same safety device.

Single Roll Crusher

Toothed Segments



A close-up view of the Crushing Roll, showing the Long Feeder Teeth which crush large lumps and the Short Crushing Teeth which give Uniform Product.

NARROW slots in the shoe of the breaker plate enable the long teeth to pass without dragging oversize pieces with them. These teeth not only act as feeders but they positively grip the large pieces and break them up in sizes which readily and unhesitatingly enter down deeper into the maw of the machine.

By making the smaller teeth on the segments of the peculiar shape shown, the proper reduction is made with a minimum amount of slack. The toothed segments are usually made in our special hard manganoid metal. The long teeth are made of hardened, drop forged steel and inserted into the body of the segment.

Breaker Plate with Renewable Shoe

Toothed segments are bolted to convex surface of the drum so as to completely cover it. This forms a very durable and satisfactory crushing surface. The frame and hopper are so arranged that by removing the light steel guard plate and hand hole cover plates access may be had to the bolts and the segments removed and replaced by new ones without disturbing either the roll or the hopper. This is very convenient when crusher is installed in connection with a large hopper or complicated chute.

Accessibility of Segment Bolts.

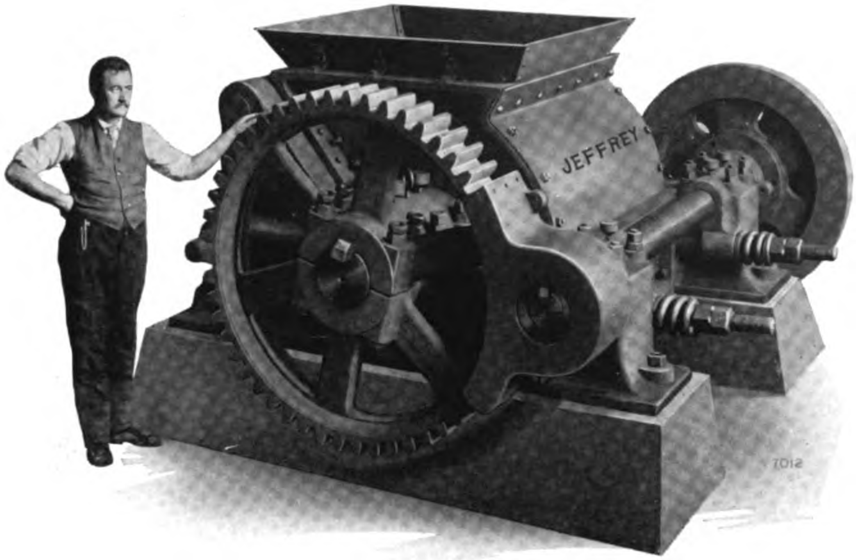
Safety Device

AS a protection against such foreign material as shown here, of which a surprisingly large percentage comes in a car of coal, the Driving Pulley of the Single Roll Crusher is not keyed to the shaft, but is mounted on a separate hub which it drives through a set of wood pins inserted in holes in the pulley arms. When any undue strain comes on the machine from any cause, these wood pins shear off, and the crushing roll stops, while the pulley keeps on revolving. After the cause of the trouble is removed, new wood pins again put the machine in operative condition.

A pair of heavy springs are placed on the tension rods. These springs do not move under ordinary working conditions, but when an undue pressure comes on the breaker plate, they act as a cushion, giving way slightly, taking up the inertia of the parts and allowing time for the pins to shear without breaking more important elements in the machine.

Single Roll Crusher

36-in. x 36-in. Single Roll Crusher

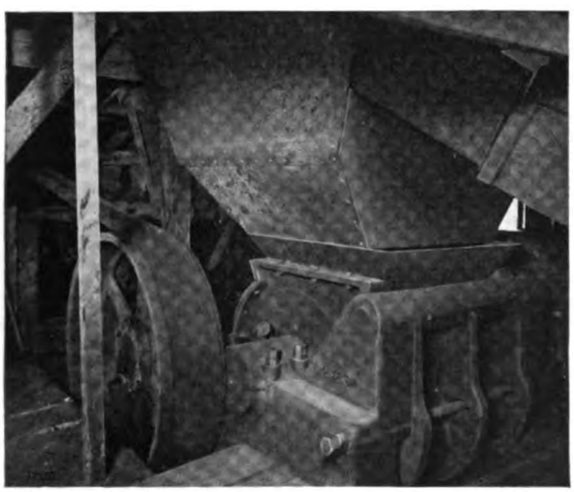


WEIGHING approximately ten tons, the Jeffrey 36″ x 36″ Single Roll Crusher has reduced in one hour, two hundred tons of run-of-mine Bituminous Coal to Stoker size.

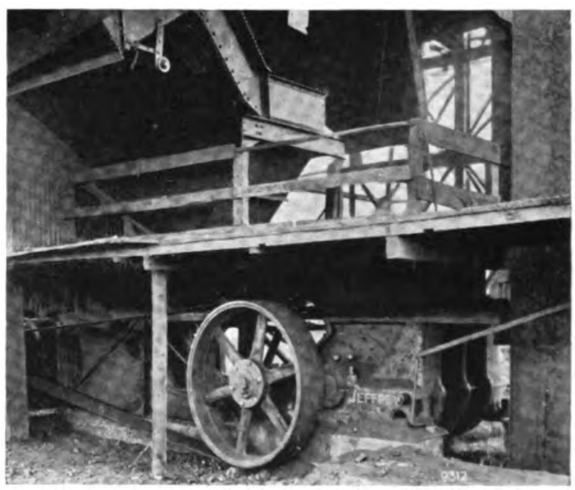
The service for which a crusher of this size is primarily fitted is that of reducing the entire output of the coal mine to a size suitable for use with mechanical stokers in either boiler house or locomotive service.

A machine of this capacity takes the place of several smaller units and occupies less space. By simple adjustment of the big hinged breaker plate, a wide range of crushed products from eight inch coal to stoker sizes is readily obtained.

While of great strength and durability, it is extremely simple in design so that but a minimum of attention is required to keep it in first-class condition.



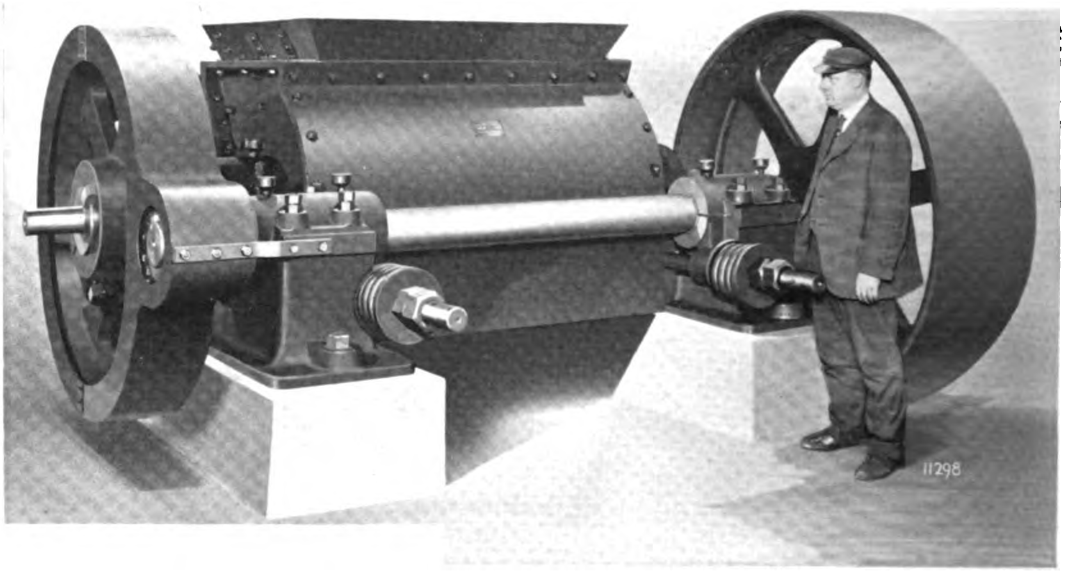
A 36″ x 36″ Crusher as installed in the tipple of a large coal mine. It occupies a small space between two floors and gives uninterrupted service week in and week out.

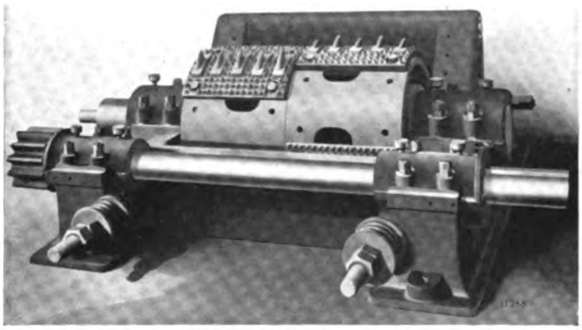


Another 36″ x 36″ Crusher in service at a coal mine. A Jeffrey Bucket Elevator is used in connection with the Crusher for elevating the coal when reduced to required sizes.

Single Roll Crusher

36-in. x 54-in. Single Roll Crusher

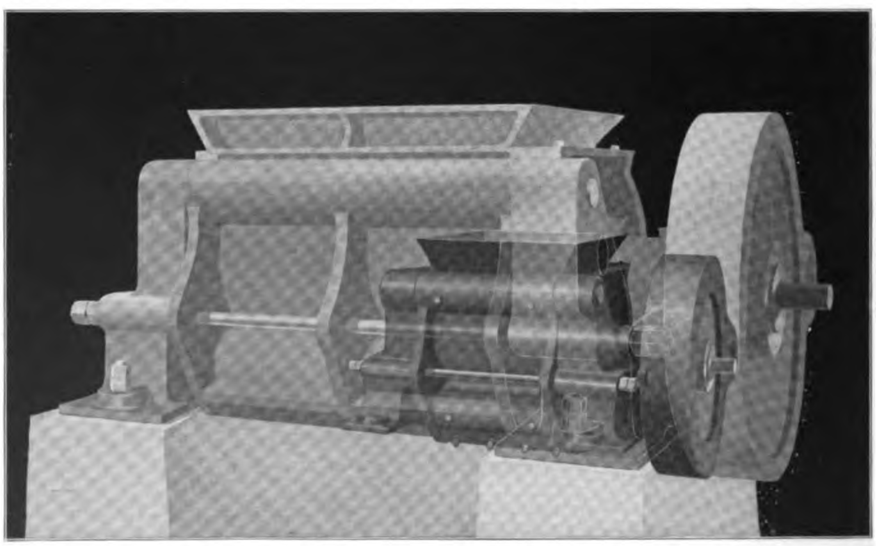




The massive Frame and Crushing Roll of the 36" x 54" Crusher, illustrating how the renewable toothed segments are assembled on the crushing roll.

THE 36" x 54" Single Roll Crusher is adapted to the same service as the 36" x 36" machine illustrated on the preceding page, but has a proportionately greater capacity.

Some conception of the size of this Crusher may be gained in the illustration above as compared to a man of normal height, while below is shown a comparison of this same machine with the 18" x 18" Crusher.

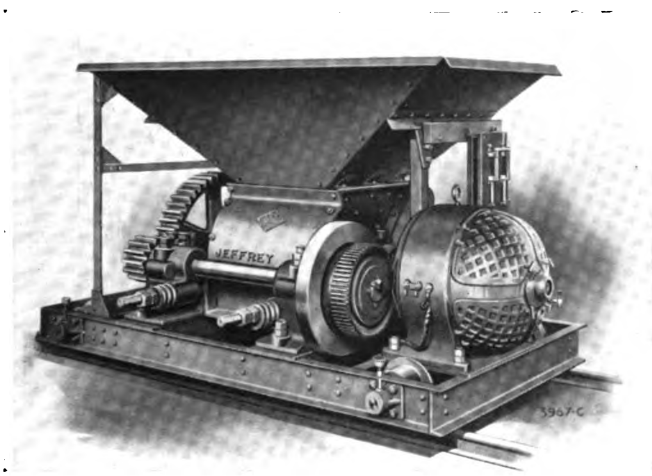


Comparison of Jeffrey 18" x 18" Crusher with the mammoth 36" x 54" Machine.

Single Roll Crusher

Portable Crusher for Grab Bucket Feed

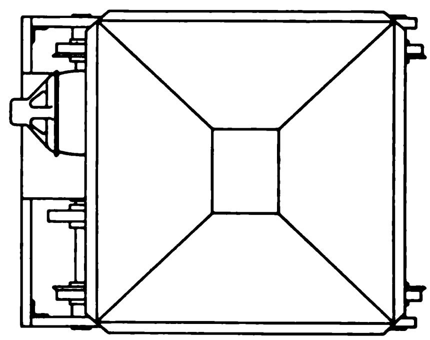
Portable Single Roll Crusher with Large Hopper for Grab Bucket Service. Made to travel as loader over conveyor along side of railroad cars, or directly over storage bins.



Portable Single Roll Crusher with motor and gear cover removed to show the rigid and compact yet very accessible construction of this highly efficient crushing unit.

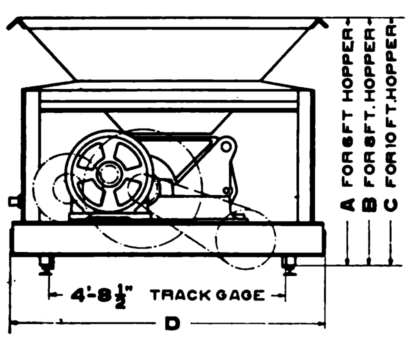
Dimensions and Approximate Weights of Portable Crushers complete, except Motor.

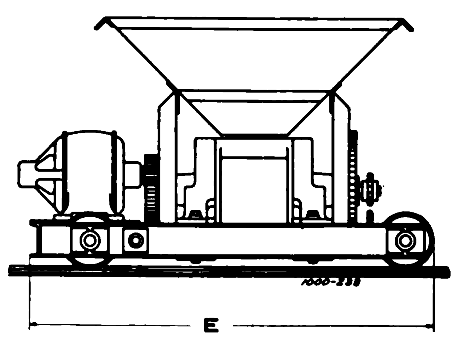
Size Crusher	Weight Lbs.	Dimensions				
		A	B	C	D	E
18″ x 18″	6000	5′- 0″	6′- 0″	7′- 0″	6′-4″	8′- 1″
24″ x 24″	10500	5′- 2″	6′- 2″	7′- 2″	7′-0″	9′- 6″
30″ x 30″	15500	5′- 9″	6′- 9″	7′- 9″	6′-8″	10′-11″



General dimensions of the Standard Single Roll Crusher assembled as a portable machine. Change in dimensions of hopper made to suit requirements.

Line drawings of other portable sizes furnished on request.





Single Roll Crusher

Capacities of Single Roll Crushers

Using HARD Bituminous Coal

such as Indiana Block, West Virginia Splint, Illinois, Iowa, Colorado, Wyoming, Penn Freeport, Kittanning and Cannell.

For Methods of using Tables see Example of SOFT COAL on opposite page.

NOTE—With Table I use Horsepower Table IV page 576.

TABLE I—FOR HARD BITUMINOUS COAL

TONS PER HOUR	Size of Product*							
	1"	1¼"	1½"	2"	3"	4"	5"	6"
10								
15	18" x 18" Crusher							
20			8" Cubes Maximum Feed					
25				For Larger Lumps				
30					Use Larger Crusher			
40	24" x 24"							
50		Crusher						
60			14" Cubes					
75	30" x 30"				Maximum			
100		Crusher						
125			20" Cubes Maximum					
150	36" x 36"							
175		Crusher						
200								
250	36" x 54"							
300		Crusher						
350								
400								
450	For							
500	These Capacities							
550	and Products							
600	Use More							
650	Than One							
700	Machine							
750								

TABLE II—FOR MEDIUM HARD BITUMINOUS COAL

TONS PER HOUR	Size of Product*							
	1"	1¼"	1½"	2"	3"	4"	5"	6"
10								
15		18" x 18"						
20			Crusher					
25				10" Maximum Feed				
30					For Larger Lumps			
40					Use Larger Crusher			
50								
60	24" x 24"							
75		Crusher						
100			16" Cubes					
125	30" x 30"				Maximum			
150		Crusher						
175			22" Cubes					
200	36" x 36"			Maximum				
250								
300			Crusher					
350								
400	36" x 54"							
450								
500			Crusher					
550								
600	For these							
700	Capacities							
800	and Products Use							
900	More Than One Machine							
1000								
1100								

Using MEDIUM HARD Bituminous Coal

such as W. Virginia Thacker, Panther, Banner, Pittsburgh No. 8, Coalburg, Kentucky, Harlan, Hazard No. 4, No. 7 Block and Ohio Hocking.

*By "Size of Product" is meant average results, 80 to 90 per cent. pass screen indicated. To increase capacities of Single Roll Crusher see Page 576.

NOTE—With Table II use Horsepower Table V on page 576.

Single Roll Crusher

TABLE III—FOR SOFT BITUMINOUS COAL

TONS PER HOUR	Size of Product* 1"	1¼"	1½"	2"	3"	4"	5"	6"
10								
15								
20								
25		**18"**	**x**	**18"**	**Crusher**			
30								
40				12" Cubes Maximum Feed				
50					For Larger Lumps			
60					Use Larger Crusher			
75		**24"**						
100			**x**					
125				**24"**				
150		**30"**			**Crusher**			
175			**x**			18" Cubes		
200				**30"**			Maximum	
250					**Crusher**			
300		**36"**				24" Cubes		
350			**x**				Maximum	
400				**36"**				
450								
500		**36"**						
550			**x**		**Crusher**			
600								
700	For These			**54"**				
800	Capacities							
900	and Products			**Crusher**				
1000	Use More Than							
1100	One Machine							

Capacities of Single Roll Crushers

Using SOFT Bituminous Coal

such as Pocahontas, Connellsville, New River, Pittsburgh Coking, and Youghiogheny.

*By "Size of Product" is meant average results, 80 to 90 per cent. pass screen indicated. To increase capacities of Single Roll Crusher, see page 576.

NOTE—With Table III use Horsepower Table VI on page 576.

Examples using the above Table for Soft Bituminous Coal:—

40 Tons per hour reduced to 1½" size of product and 12" maximum cubes feed calls for 18" x 18" Crusher.

250 Tons per hour reduced to 4" size of product and 24" maximum cubes feed calls for 30" x 30" Crusher.

300 Tons per hour reduced to 1¼" size of product and 24" maximum cubes feed calls for 36" x 36" Crusher.

Single Roll Crusher

Horse Power Required for Single Roll Crushers

TABLE IV

To be used with Table I, page 574

For Hard Bituminous Coal

Size of Product	1″ 1¼″	1½″ 2″ 3″	4″ 5″ 6″	
Size of Crusher Selected from page 574	**HORSE POWER For Each Ton of Coal Crushed Per Hour**			**Size of Motor to be Not less Than**
18x18	½	⅓	⅙	7½ H. P.
24x24	½	⅓	⅙	10 H. P.
30x30	½	⅓	⅙	15 H. P.
36x36	½	⅓	⅙	20 H. P.
36x54	½	⅓	⅙	25 H. P.

TABLE V

To be used with Table II, page 574

For Medium Hard Bituminous Coal

Size of Product	1″ 1¼″	1½″ 2″ 3″	4″ 5″ 6″	
Size of Crusher Selected from page 574	**HORSE POWER For Each Ton of Coal Crushed Per Hour**			**Size of Motor to be Not less Than**
18x18	⅓	2/9	1/9	7½ H. P.
24x24	⅓	2/9	1/9	10 H. P.
30x30	⅓	2/9	1/9	15 H. P.
36x36	⅓	2/9	1/9	20 H. P.
36x54	⅓	2/9	1/9	25 H. P.

Example under Table IV:—Horsepower required to reduce 100 tons per hour to 1″-1¼″ in a 30 x 30 Crusher is 100 times ½ (in Table) equals 50 H. P.

TABLE VI

To be used with Table III, page 575

For Soft Bituminous Coal

Size of Product	1″ 1¼″	1½″ 2″ 3″	4″ 5″ 6″	
Size of Crusher Selected from page 575	**HORSE POWER For Each Ton of Coal Crushed Per Hour**			**Size of Motor to be Not less Than**
18x18	¼	⅙	1/12	7½ H. P.
24x24	¼	⅙	1/12	10 H. P.
30x30	¼	⅙	1/12	15 H. P.
36x36	¼	⅙	1/12	20 H. P.
36x54	¼	⅙	1/12	25 H. P.

To Increase Capacities of the Single Roll Crusher

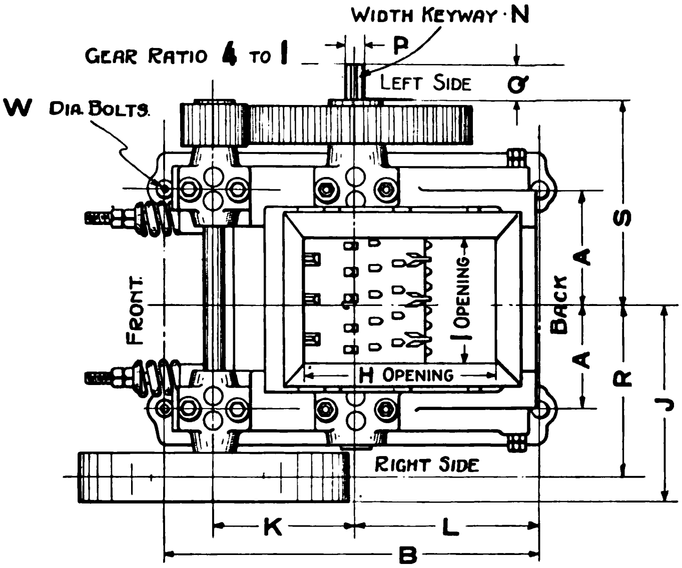
The Capacity Tables, pages 574 and 575 are based on "STANDARD SPEEDS" of Rolls in Table below. These capacities however, may be increased or decreased 50% by a corresponding increase or decrease in the speed of crusher roll and also a corresponding increase or decrease in the Horse-Power of the motor required—with size of Motor in no case to be less than listed in Tables.

Speeds, Shipping Weights, Etc.

Size of Crusher	Standard Speed of Roll Rev. per Min.	Max. Speed of Roll Rev. per Min.	Approx., Shipping Weight Pounds	Floor Space See also Page 577	Size of Pulley—Inches Diam.	Size of Pulley—Inches Face
18x18	75	125	3200	5′ 0″ x 4′4″	34	6½
24x24	60	100	6500	6′11″ x 5′4″	42	8½
30x30	50	75	10500	7′11″ x 6′9″	48	10½
36x36	40	60	20000	8′ 6″ x 8′9″	60	15½
36x54	40	60	31000	9′ 0″ x 11′6″	66	19

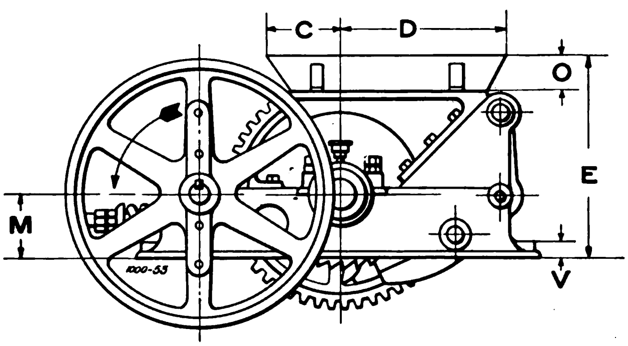
Single Roll Crusher

General Dimensions of Crusher for Belt Drive



When ordering Crusher be sure to state on which side driving pulley is wanted. Crusher will be shipped assembled as shown, unless otherwise ordered.

If Crusher is to be Gear Driven give Motor Shaft Diameter, Keyseating, Shaft Extension and Speed



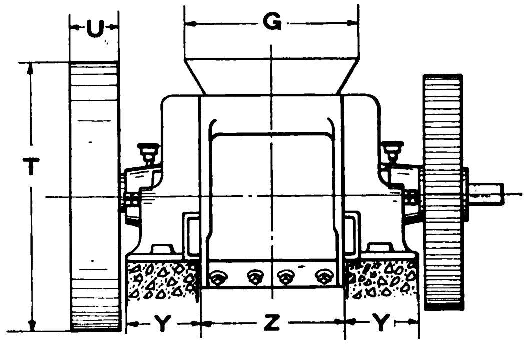


Table of Dimensions—Inches

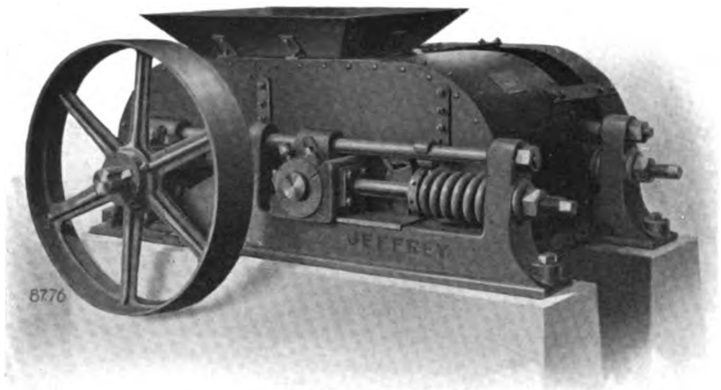
Size Crusher	A	B	C	D	E	G	H	I	J	K	L	M
18″ x 18″	14⅛	47	9¼	20¾	25	22	24	16	26½	17¾	23	8
24″ x 24″	17⅞	55½	12½	23½	32½	30	27½	22	33	21	26	10½
30″ x 30″	22⅛	65	14	27	37	36	32½	28	39¾	25½	30¾	12
36″ x 36″	27¼	76	16¾	31¼	44¾	43½	40	35½	52¾	30½	37	15
36″ x 54″	37½	84	15½	27½	47	59	38	51	68	34	38	17

Table of Dimensions—Continued

Size Crusher	N	O	P	Q	R	S	T	U	V	W	Y	Z
18″ x 18″	$\frac{9}{16}$x$\frac{9}{32}$	4½	2$\frac{3}{16}$	4½	23⅛	25½	34	6½	2	1	9½	19
24″ x 24″	$\frac{9}{16}$x$\frac{9}{32}$	6	2$\frac{3}{16}$	4¼	28¾	30¾	42	8½	2¼	1¼	11	25
30″ x 30″	⅞x$\frac{7}{16}$	6	3$\frac{7}{16}$	4¾	35⅜	36½	48	10½	3	1¼	13½	31
36″ x 36″	1x½	6	3$\frac{15}{16}$	5½	55	45	60	15½	3½	2	17½	37
36″ x 54″	1x½	6	3$\frac{15}{16}$	8	58½	58½	66	19	4	2	20	55

Tables give approximate dimensions only. Certified print for your installation furnished upon application.

Double Roll Coal Crusher



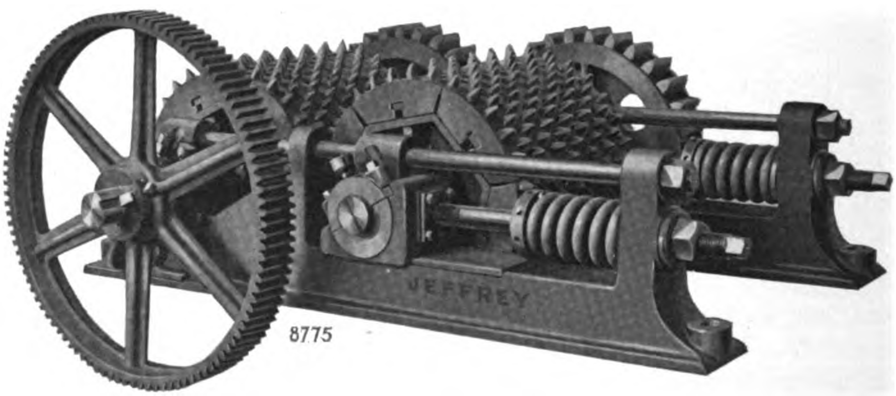
(PATENTED)

THE Double Roll Crusher is particularly fitted to ordinary break down service of various friable materials where the product is required to be of fairly uniform sizes but not of the average uniform sizes obtained with the Single Roll Crusher.

It is fitted with readily renewable toothed segments while a spring safety device ordinarily prevents injury to the machine from foreign substances.

A wide range of this spring's adjustment readily permits the rolls to be opened wide to act as a bypass when material handled is not to be crushed.

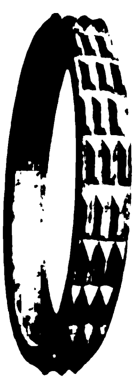
Round drums suitable for using toothed rings can be furnished.



Double Roll Crusher with spring safety device and by-pass.

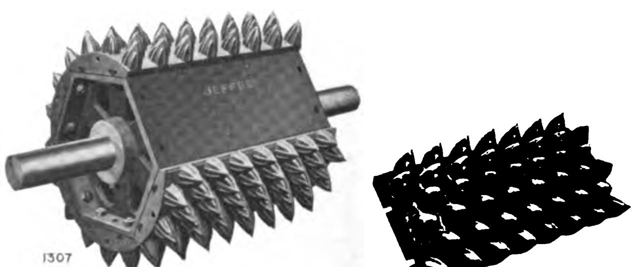
Toothed Rings and Segments for Double Roll Crushers

Fine Tooth



Medium Tooth

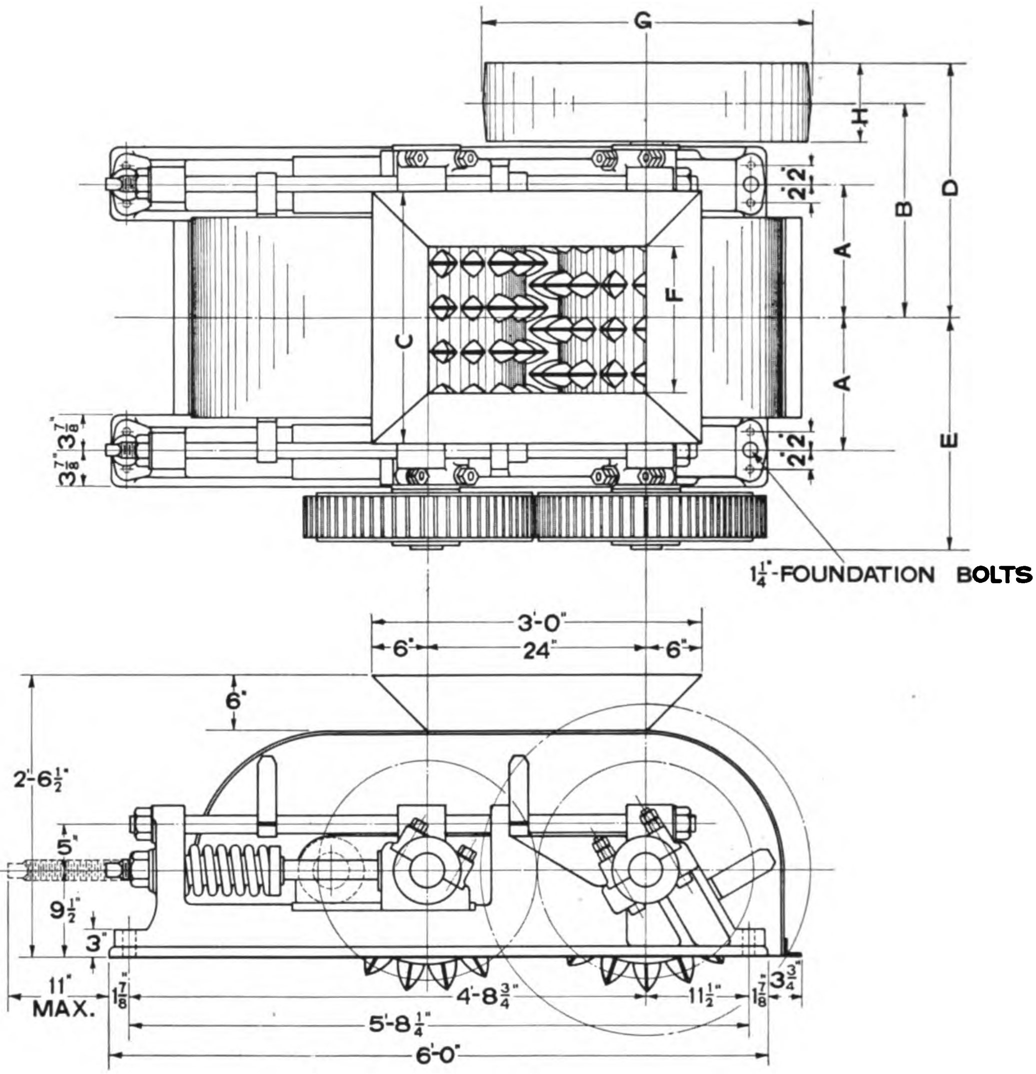
Coarse Tooth



Segment Type Crusher Drum

Double Roll Coal Crusher

Dimensions and Specifications



DIMENSIONS—INCHES

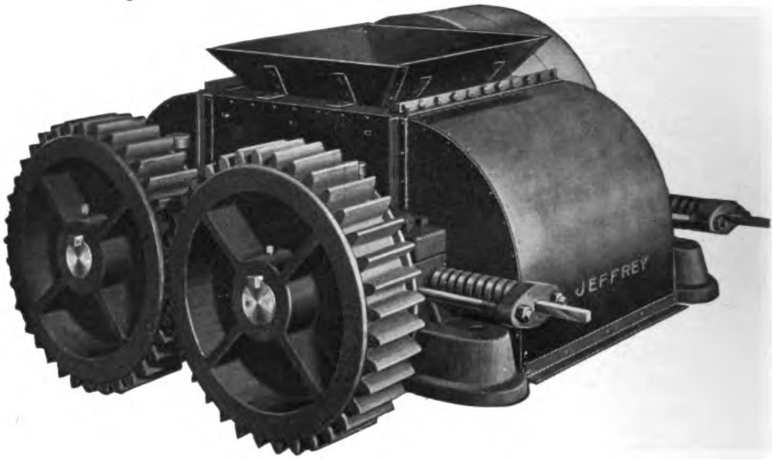
Size		A	B	C	D	E	F	G	H	Speed R. P. M.	Capacity per hour Tons	H. P.	Weight
Diam.	Length												
24	20	14½	23¼	28	27½	25	16	36	8½	125	30 to 40	12 to 15	5200
24	30	19⅞	28⅝	36	33⅛	32⅜	24	42	8⅞	125	50 to 70	20 to 25	7100

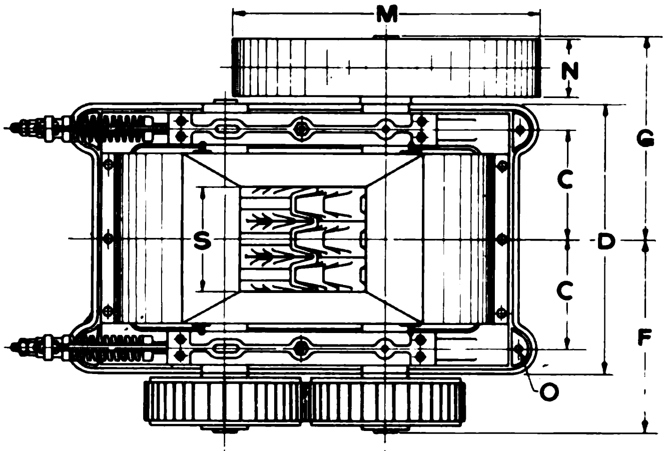
The above is based on medium hard bituminous coal reduced to approximately 2" and finer. The capacity will increase or decrease proportionately with the finer or coarser product produced.

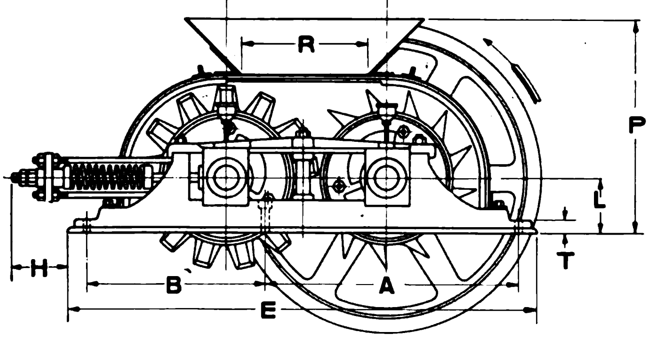
Double Roll Coal and Coke Crusher

Large capacity. Little waste. Wide range of adjustment. Reduces the coke to cube form of a size corresponding to the adjustment. Made in various sizes, with renewable segments. Strong and durable.

Ring Segments shown below are used for Coke. For Rings and Segments for Coal, see page 578.

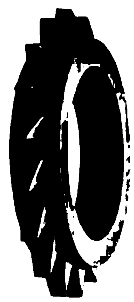




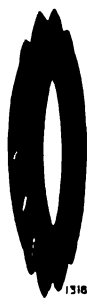


Ring Segments

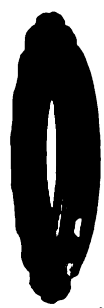
Made of Semi-Steel, Interchangeable and Practically Indestructible.



Style "F"



Style "G"



Style "H"

GENERAL DIMENSIONS IN INCHES

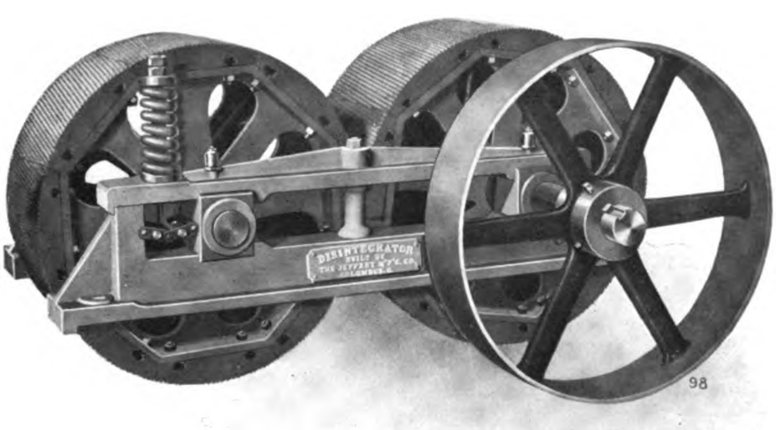
Size No.	A	B	C	D	E	F	G	H	L	M	N	O	P	R	S	T	R. P. M.	H. P.	Cap. Ton Per Hr. Coal	Cap. Ton Per Hr. Coke	Weight Lbs.
1	28¼	19¾	12	29½	52	21	23	6	6	34	6½	¾	23¼	14	12	1⅜	125	5 to 6	12 to 16	8 to 10	2600
1½	31⅛	22 7/16	14¼	34½	58 1/16	24¾	25¼	4	6⅝	42	6½	⅞	24¾	12	15	1½	125	10 to 12	20 to 25	12 to 16	3700
24 x 20	*44¼	0	15½	39	52¾	27	28½		7⅞	36	8½	1	29	24	16	4½	125	12 to 15	30 to 40	20 to 25	5000
24 x 30	*48½	0	19⅞	47¾	57	32⅜	34⅜		8¼	42	8½	1	29¼	24	24	4¾	125	20 to 25	50 to 70	30 to 40	6900

*The "A" dimension is the sum of both A and B dimensions, that is, holes for two anchor bolts in each sideframe instead of three.

Above capacities are based on a product approximately 2 inches and finer.

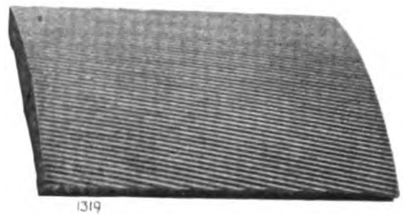
The capacity will increase or decrease proportionately with the finer or coarser product produced.

Coal Disintegrator



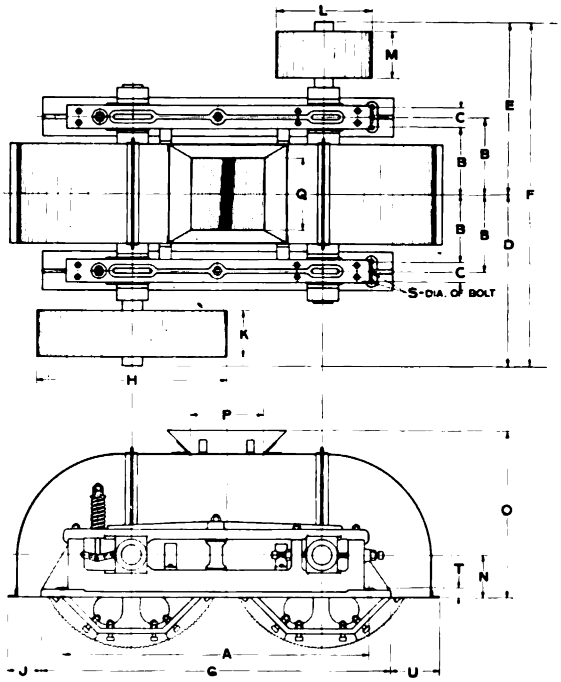
(PATENTED)

With Safety Spring Toggle, Efficient and Durable



The rolls are corrugated and run at different speeds, reducing coal to a uniform size. Especially suitable for the manufacture of coke breeze. It is also used for crushing many other kinds of material.

The outer surface of the rolls is cast of semi-steel, chilled, and bolted on in segments. The latter, being duplicates and interchangeable, can be readily and economically replaced.



DIMENSIONS AND CAPACITIES

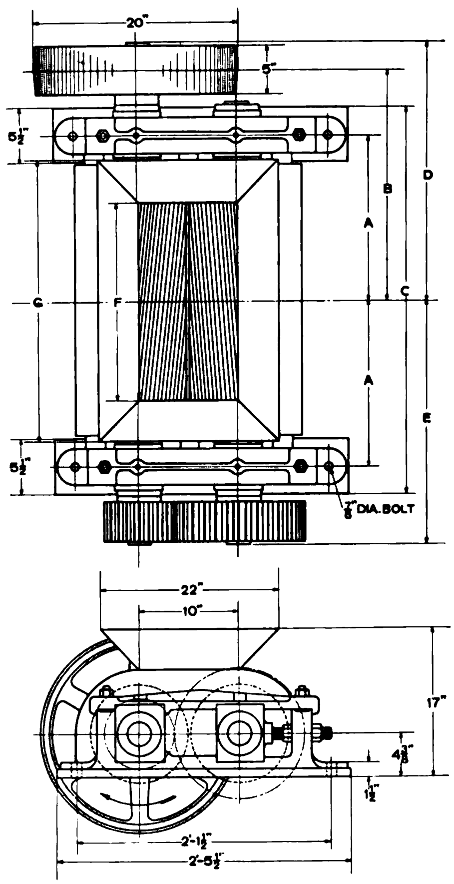
Size		A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	S	T	U	HP	Speed per min.		Capacity per Hr. Tons	Weight Lbs.
Diam.	Lgth.																					Saw tooth	V-tooth		
24	18	50½	14¼		29¼	29¼	58½	59	30	0	8	15	8	7⅞	28	16	15	1¼	4½	1¾	10	400	200	8 to 10	4000
34	20	63¾	15		31¾	31¾	63½	73¼	36	1¼	8	18	8	8¾	33⅜	18	15	1¼	5	4½	15	350	175	15 to 25	6000
48	24	77	17½	5	44½	44½	89	88	48	8¼	12	24	12	11	43¼	18	18	1	2½	12¼	20 to 25	300	150	40 to 60	12000

24 x 18 is capable of handling pieces 5 to 6 in. square and reduce same from ¼ in. to dust.
34 x 20 is capable of handling pieces 6 to 8 in, square and reduce same from ⅜ in. to dust.
48 x 24 is capable of handling pieces 12 x 14 in. square and reduce same from ⅜ in. to dust.

Salt Crusher

BUILT on the same plan as the Coal Disintegrator, with corrugated rolls running at same or different speeds, it is well adapted for crushing Salt and materials of a similar nature.

The Crusher shown at the left is equipped with rolls 10 inches in diameter by 14 and 24 inches long. We have every facility for building machines to do any sort of crushing work, and to meet every condition of service.

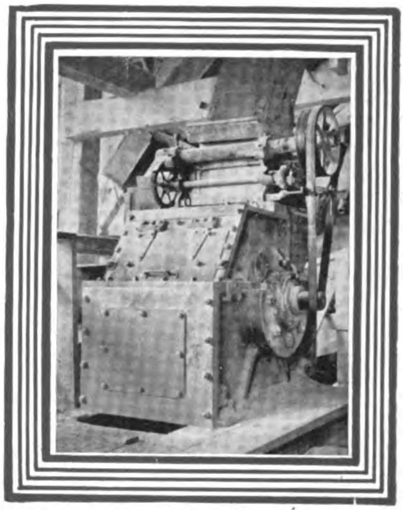


Dimensions—Inches

Size		A	B	C	D	E	F	G
Diam.	Length							
10	14	11½	17¾	28½	20⅝	19⅜	9½	21½
10	24	16½	22¾	38½	25⅝	24⅜	19½	31½

10" x 14" Crusher has capacity of 1200 to 1500 lbs. of salt per hour reduced to about ¼ inch.
10" x 24" Crusher has capacity of 2000 to 2500 lbs. of salt per hour reduced to about ¼ inch.
5 to 7 H. P. required.

Pulverizers



Section 20

Swing Hammer Pulverizers

Swing Hammer Pulverizer Method of Reducing Material

IN the last few years the Swing Hammer Pulverizer has proved itself a very efficient machine in the reduction of so wide a variety of substances that it has become indispensable to many industries.

This machine operates on the principle of reducing material by striking it while in suspension as opposed to the attrition mill which mashes or rolls the substances between two more or less hard surfaces. The material to be reduced is fed near the top of the machine, and in falling comes in contact with the rapidly revolving hammers which drive it against the breaker plates, from which it rebounds again into the path of the hammers.

Reducing Abrasive Materials

Silica and compounds of a similar nature are very abrasive. Materials containing appreciable amounts of these substances will wear the exposed parts of any machinery used to handle or reduce them. This is especially true with the hammers and bars of our swing hammer pulverizers. The nature of the silicates, whether hard or soft, etc., has quite an influence and, therefore, the amount of wear cannot be exactly foretold without an actual trial.

An approximate rule we have followed with good success, is to consider a silica content of 5% or less, permissible; 10% to 15%, doubtful; 20% to 25%, dangerous; and over 30%, prohibitive.

Degree of Reduction

Fineness is to a large extent determined by the intensity of the blow, and hence different degrees of reduction may be had by simply varying the speed of the machine without much regard being paid to the other parts. Different materials and different conditions of the same material as to temperature, moisture, etc., will show a corresponding difference in the degree of reduction, so that it is impossible to predict beforehand the results to be expected from any particular material unless we have a sample.

By reducing a sample (say 50 pounds) in our testing mill, we can ascertain the degree of reduction when the same material is fed in the same condition to one of our regular pulverizers. This sample should be accompanied with information regarding the product desired.

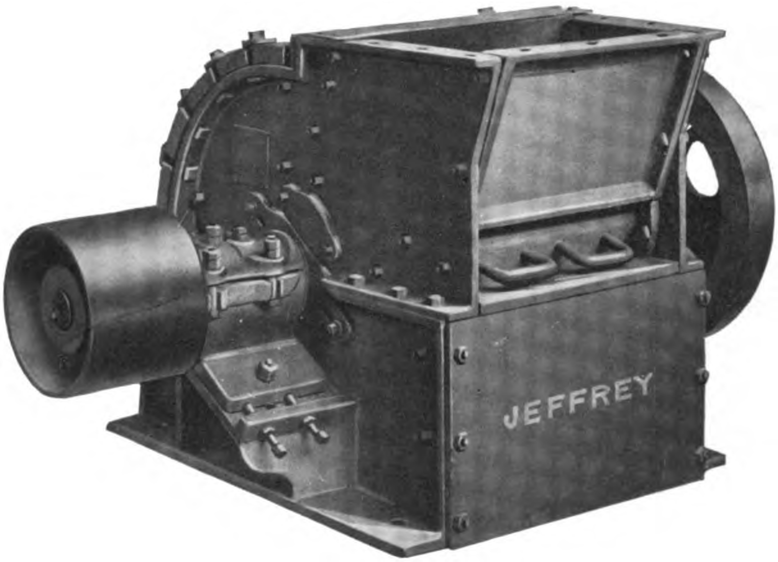
Our Testing Laboratory is so equipped that we can fit the testing machines with suitable openings between the bars and run at proper speed for producing a given product. By making a screen analysis of the pulverized material, the customer gets definite information of what the pulverizer can do.

Sample for Analysis

For the protection of our customers and ourselves, we have made it a rule to require a chemical analysis of any abrasive material before making a guarantee on a swing hammer mill designed to handle it. It has been our custom to make these analyses without cost to customer. A small sample by mail is all that is required for this purpose.

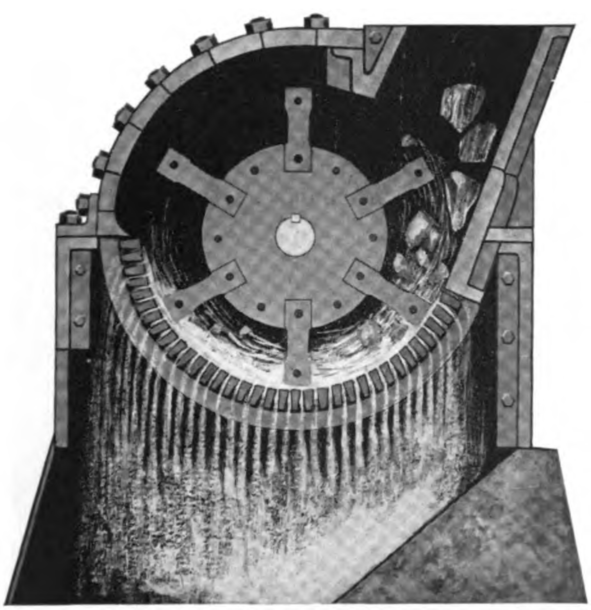
Swing Hammer Pulverizers

Type A



DISTINCTIVE from the many specialized forms of Jeffrey Swing Hammer Pulverizers, the Type "A" is a general purpose machine suitable for reducing dry rock products and many fibrous materials to the moderate degree of fineness, required for many purposes.

Material fed from above falls down on a sloping breaker plate where it is engaged by the rapidly revolving hammers. The partially reduced material immediately passes over the cage of screen bars where all that is sufficiently fine will pass through, while the residue is carried around the machine for a second operation. The top breaker plate materially assists in reducing this oversize material.



Cross Section View of Type "A" Pulverizer

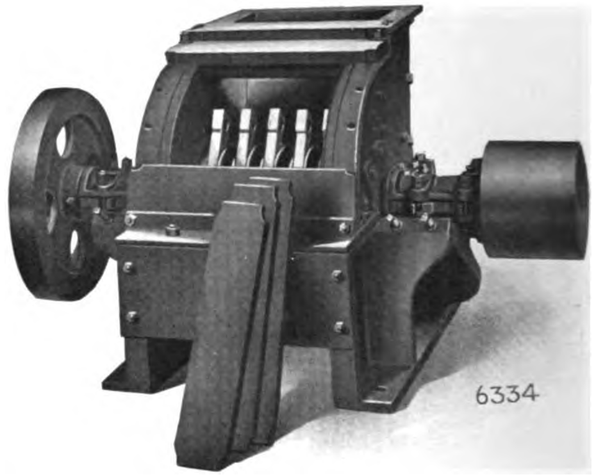
Feeder

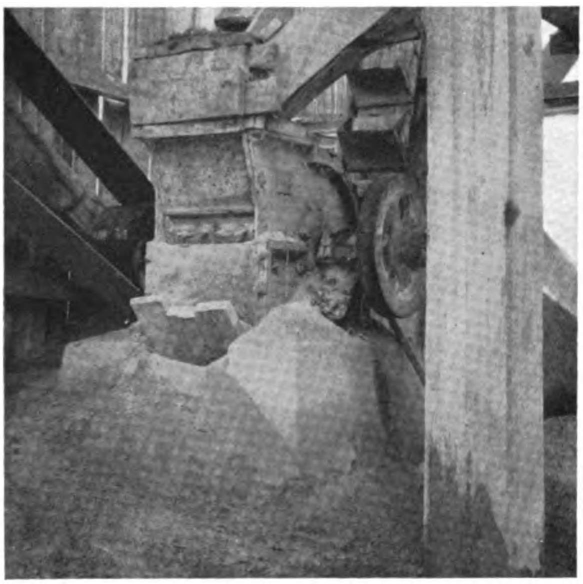
When hard material (like limestone) is fed to these machines the pieces should be reduced to a size not exceeding three inches, but softer substances (like bituminous coal) can be fed in much larger pieces. The supply of material may be fed by hand or discharged directly into the pulverizer from any sort of conveyor or elevator. When taken directly from a large bin, some sort of automatic feeding device is necessary. We make these feeders in various forms to handle different materials. The oscillating feeder, illustrated on page 586, is designed for crushed limestone or similar material. It is unsurpassed for this purpose. Unless specified in some other way, our standard equipment for this type of machine does not include a feeder.

Swing Hammer Pulverizers

Type A

The right hand view shows a Jeffrey Type A Swing Hammer Pulverizer with its heavy staves removed to give access to screen bars and hammers.





A Type A Pulverizer reducing limestone, is shown in the left hand illustration. A Jeffrey Continuous Bucket Elevator is used to elevate the material from the Pulverizer to storage bin.

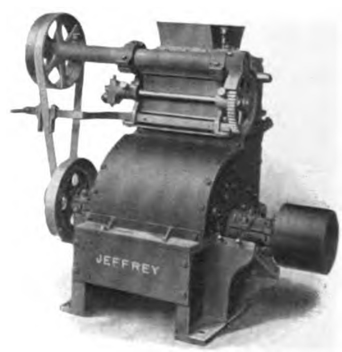
Foundation

LIKE all other high speed machinery, the Jeffrey Type "A" Swing Hammer Pulverizer will give best results when mounted on a substantial foundation. These foundations must be built to suit local conditions, but are so various that no specific instructions can be given. In general a couple of side piers with an open space between them answer all requirements. The finished material falls between these piers and may be removed by a screw or belt conveyor or taken up directly by elevator buckets.

Drive

These Swing Hammer Pulverizers may be belted from a line shaft, steam engine or electric motor. When a pulverizer is to be driven by a belt, the drive should be as nearly horizontal as possible and the lower strand of belt should be the pulling side. A good quality of rubber or Balata belting for out-of-door work or leather belt for dry inside work will give excellent results.

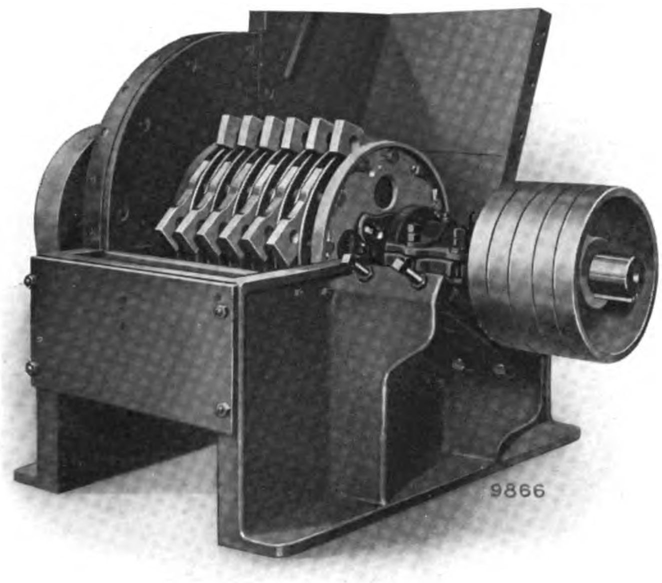
Many successful installations have been made by coupling an electric motor of suitable speed directly to pulverizer shaft. For this purpose a flexible coupling is supplied.



Type A with Oscillating Feeder

Swing Hammer Pulverizers

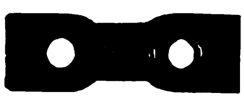
Type A



Accessibility

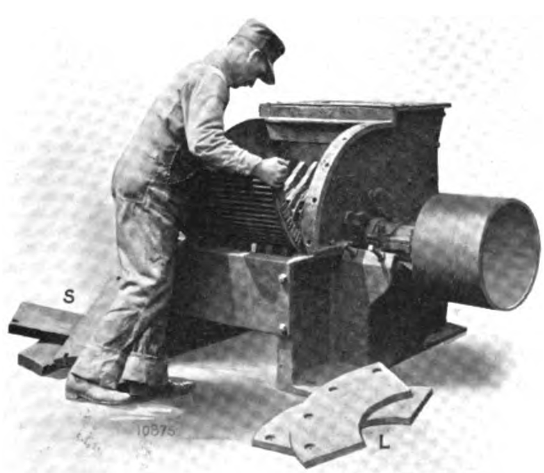
THE screen bars can be easily changed. After the staves (S), shown in lower left hand illustration, are removed from the front of the machine, the two inside liners (L) are taken out. The screen bars may be held in racks, which in turn, are held in the grooves in the frame of the pulverizer, or the screen bars may be riveted together in sections or separated with spacing blocks or angles riveted on them—these fit into the grooves of the machine and no racks are necessary. With the liners removed, it is simply necessary to slide the sections or bars out of the machine through the grooves.

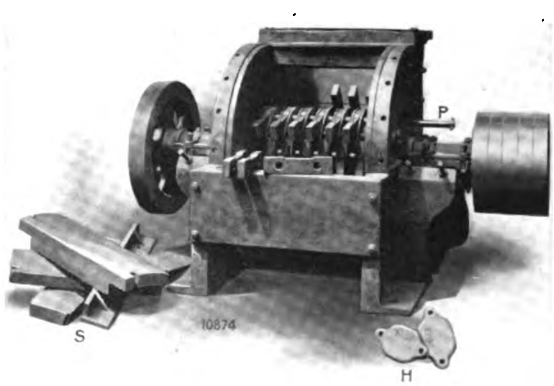
Hammers



All these pulverizers are equipped with Double End, Manganese Steel Hammers. This form of hammer can be turned when one end is worn and thus gives double service. We know of no material which will resist wear equal to manganese steel.

To replace or change hammers of a pulverizer is a very simple matter. The staves (S) which cover the front of the machine are easily removed by loosening a few bolts; after taking off the hand hole covers (H) and withdrawing the cotter pins from one end of the hammer pin (P), the hammer pin can be pulled out thru the hand hole; the hammers are then taken out of the machine as the hammer pin releases them.

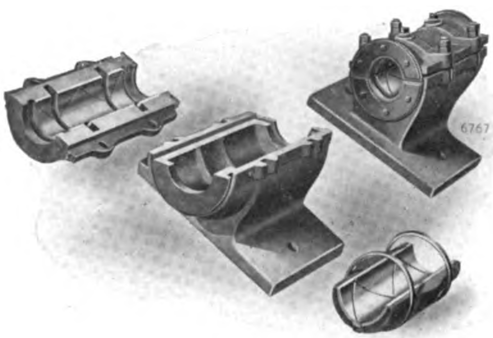




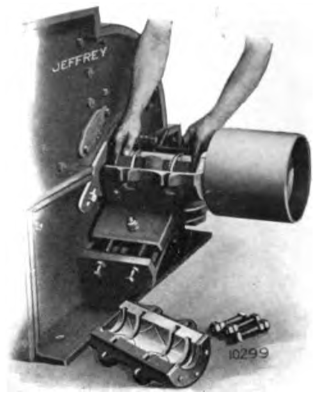
Showing how the screen bars and hammers of the Type A Pulverizers are removed as explained above

Swing Hammer Pulverizers

Type A



Self Aligning Ring Oiling Bearings



Babbitted Innershells can be removed with shaft in place

Bearings

EACH Type "A" Pulverizer is equipped with self-aligning ring oiling bearings. This bearing is made in three pieces as shown in above illustration. The inner shell may be removed and rebabbitted without removing the shaft from the machine. They have large oil chambers which should be filled with a good quality of lubricating oil, not grease. The end of the bearings are protected with felt washers to keep out the dust. They are in every way a first class bearing and give excellent service on these machines.

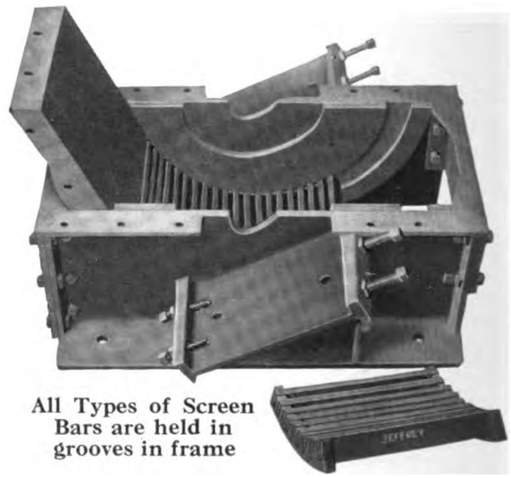
Shafts

The shafts used in these machines are made of high carbon hammered steel. These shafts are enlarged at the center and are very strong and stiff and will not spring under working conditions.

The central part of hammer drum is formed of plate steel discs with spacing rings between them. The cast steel end discs are made with flanges to protect ends of hammer rods. Each disc is balanced separately before the drum is assembled. The balancing is done by drilling out the heavy side. Thus a perfect running balance is assured and the machine will run quietly at any reasonable speed.

Smaller sizes of these machines carry the shaft in two bearings only. An outboard bearing is used on the larger sizes. Bearings are supported on heavy brackets at sides of the frame. The hammers may be adjusted close to screen bars, thus insuring best results.

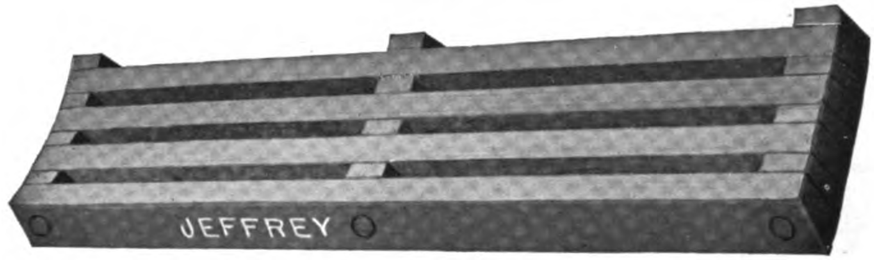
Heavy shaft with enlarged centers insures a quiet running machine



All Types of Screen Bars are held in grooves in frame

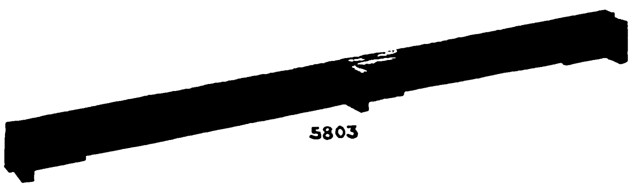
Swing Hammer Pulverizers

Type A



Heavy Screen Bars

SCREEN Bars for the Type "A" Pulverizer are made in two general types. For very heavy work, bars are made of either a high carbon or manganese steel, rectangular in cross-section and riveted together in sections with spacing blocks of different thicknesses to give proper mesh or openings between the bars. We have patterns for these spacing blocks for all sizes of our machines to give clear openings between the bars of 1/8", 1/4", 3/8", 1/2", 3/4" and 1", and can therefore, make up Screen Bars with these openings for any of our standard machines.

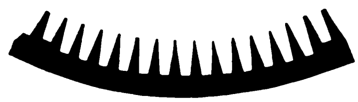


Heavy Bars for meshes of more than one inch.

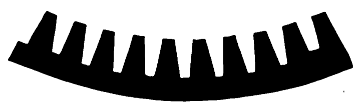
For openings greater than one inch, our custom is to rivet angle clips on the individual bars and lay them in the machine with points of angles on one bar touching back of next bar, thus preserving the clear opening.

Trapezoidal Screen Bars and Racks

For general service, the bars are trapezoidal in section and are held in position by malleable iron racks. We have the following Patterns for these Racks:



Fine Mesh Rack.



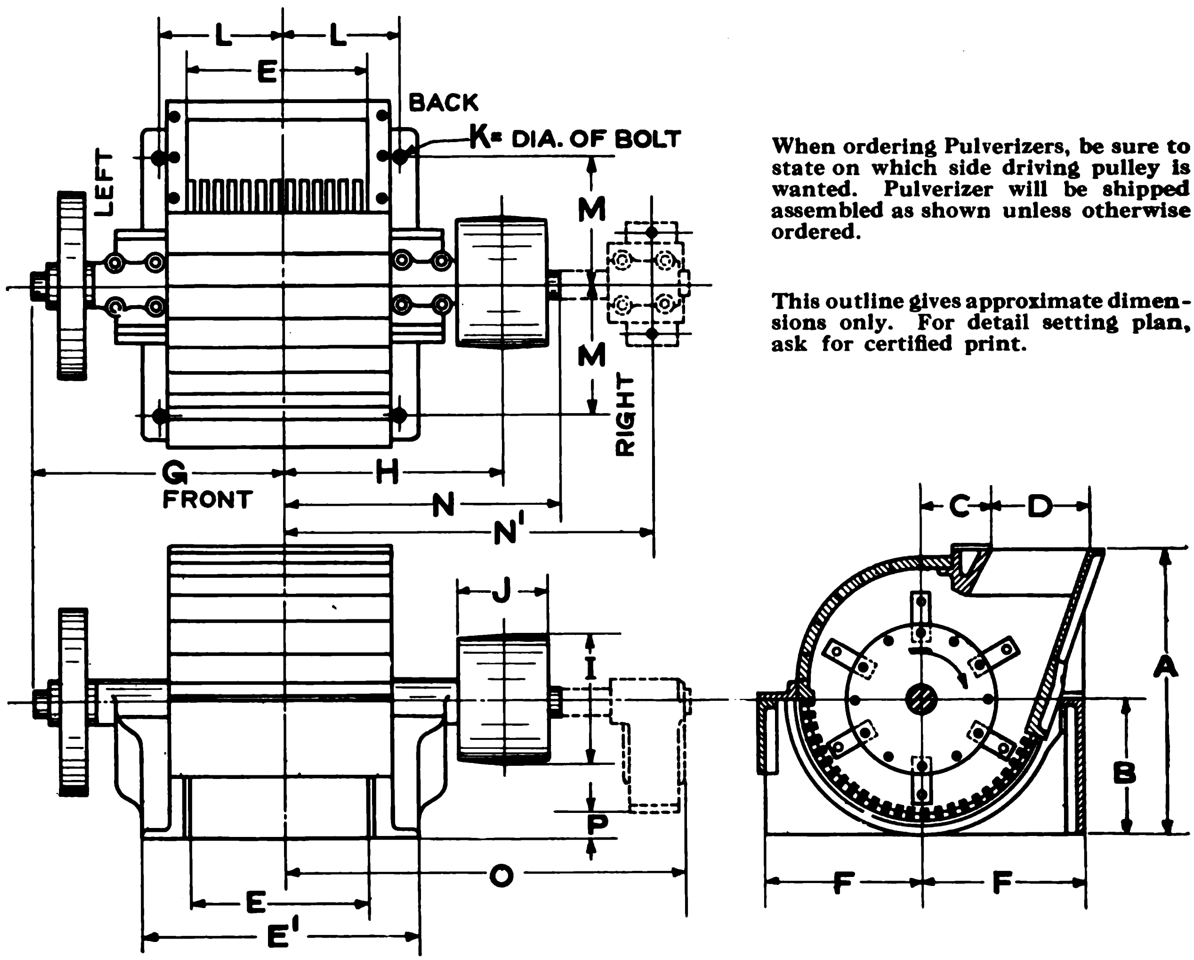
Coarse Mesh Rack.

List of Rack Patterns

Size Machine Inches	Style of Rack	Rack Patterns—Clear Openings Between Bars									No. Racks in Set
		1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	3/4"	1"	
24x12	Side	14076	14082	14077	....	14078	....	14079	14080	14081	6
24x18	Side	14076	14082	14077	....	14078	....	14079	14080	14081	6
30x24	Side	14353	14128	26592	14129	....	27956	14131	14133	14135	6
36x24 and 36x30	Side	14150	14178	14127	14179	....	14388	14181	14183	14185	8
	Center	15095	15094	....	15093	....	14389	15092	15091	15090	4
42x24 and 42x36	Side	14407	14241	16895	14243	16223	....	14401	14403	14405	8
	Center	14408	14242	16896	14244	16224	....	14402	14404	14406	4
42x48	Side	14407	14241	16895	14243	16223	....	14401	14403	14405	8
	Center	14408	14242	16896	14244	16224	....	14402	14404	14406	8

Swing Hammer Pulverizers

Type A



When ordering Pulverizers, be sure to state on which side driving pulley is wanted. Pulverizer will be shipped assembled as shown unless otherwise ordered.

This outline gives approximate dimensions only. For detail setting plan, ask for certified print.

General Dimensions in Inches

Size of Machine	A	B	C	D	E	E¹	F	G	H	I	J	K	L	M	N	N¹	O	P
24 x 12	33¼	15½	8½	11¼	13¼	26¾	19½	28	25	10	9¼	1	10½	15	29¾	....	....	....
24 x 18	33¼	15½	8½	11¼	17½	31	19½	30	27	12	9¼	1	12½	15	31¾	....	....	....
30 x 24	40	18¾	10¾	13½	22½	38½	24¼	37	32	16	11½	1	15¾	20¼	37¾	....	....	....
36 x 24	50	24	13	16¼	22	38½	27½	39	34	18	15½	1	15¾	22	41¾	....	....	....
36 x 30	50	24	13	16¼	29¼	45¾	27½	44½	38½	22	16½	1	19¼	22	46¾	55¾	61¾	2½
42 x 24	55½	26½	15	18¼	24	41¼	31½	41¼	39	24	18	1⅛	16½	25	48	....	....	....
42 x 36	55½	26½	15	18¼	35	53¾	31½	47½	43½	24	22	1⅛	23	25	54½	65	71	5¼
42 x 48	55½	26½	15	18¼	47	64	31½	52¾	50½	24	26	1⅛	28	25	63½	73	79	5¼

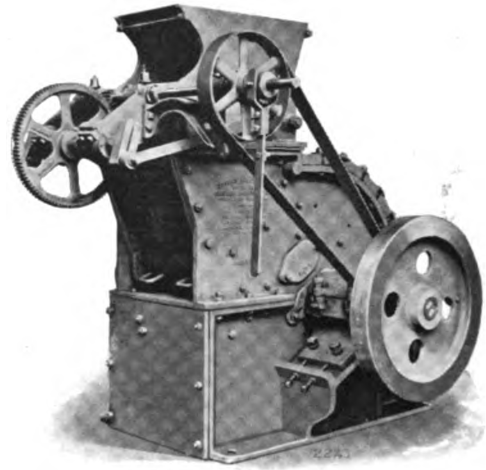
Swing Hammer Pulverizers

Type A

Speeds and Capacities

THE material which these machines may successfully reduce is so various and the conditions under which they may be required to work are so different that no exact tables of speed may be given in small space. Under the same conditions the fineness to which any given material may be reduced will vary with the peripheral speed of the hammers. The capacity will vary with the openings in the screen bars and also slightly with the speed, while the power varies with both speed and volume of material and also with the character of the material as to whether it is wet or dry, hard or soft, etc. We can, therefore, give no guarantee without exact specifications.

The following lists are approximate only. Send sample for exact specifications and prices.



Equipped with Automatic Plate Feeder.

Actual Comparative results with a 24″ Type "A" Pulverizer running at 1600 R. P. M. when Feeding 3″ Ohio Limestone

Percent passing through sieve indicated

Mesh of Hand Sieve	½	⅜	4	8	10	20	35	65	100
⅛″ Bar Opening				95%	89%	74%	60%	39%	34%
1″ Bar Opening	93%	83%	58%	39%	28%	18%	13%	9%	7%

Approximate Speed, Capacity and Power List of Type "A" Pulverizer for Limestone

Size of Machine	Approx. H. P.	Approx. Weight Pounds	Speed R. P. M.	Floor Space	Approx. Capacity per hour ⅛″ and finer	Approx. Capacity per hour ½″ and finer
24″ x 12″	15	2200	1400 to 1600	3′- 2″x4′-10″	1 to 2 tons	3 to 4 tons
24″ x 18″	25	2700	1400 to 1600	3′- 2″x5′- 2″	2 to 3 tons	4 to 6 tons
30″ x 24″	40	4500	1100 to 1300	4′- 0″x6′- 2″	4 to 5 tons	7 to 8 tons
36″ x 24″	60	6400	1000 to 1200	4′- 7″x6′- 8″	8 to 10 tons	14 to 16 tons
42″ x 24″	75	8500	900 to 1000	5′- 1″x6′-10″	12 to 15 tons	20 to 25 tons
42″ x 36″	100	9500	900 to 1000	5′- 1″x8′- 6″	15 to 20 tons	30 to 35 tons

Approximate Speed, Capacity and Power List of Type "A" Coal Crusher

Size of Machine	Approx. H. P.	Approx. Weight Pounds	Speed	Floor Space	Approximate Capacity Per Hour
30″ x 24″	35	4500	1100 to 1200	4′-0″x 6′- 2″	20 to 25 tons Run Mine Coal ¼″ to Dust
36″ x 24″	50	6400	1000 to 1100	4′-7″x 6′- 8″	35 to 40 tons " " " ¼″ " "
42″ x 24″	70	8500	900 to 1000	5′-1″x 6′-10″	50 to 60 tons " " " ¼″ " "
42″ x 36″	80	9500	900 to 1000	5′-1″x 8′- 6″	70 to 75 tons " " " ¼″ " "
42″ x 48″	110	16000	800 to 900	5′-1″x10′- 6″	90 to 100 tons " " " ¼″ " "

For Type A Shredder, see pages 624 to 629.

Swing Hammer Pulverizers

Type A—Reducing Oyster Shells

JEFFREY Type "A" Pulverizer reduces oyster shells to a fineness suitable for chicken grit or agricultural lime. If a uniform product of a given size is required, a screen should be used in conjunction with the pulverizer in order to grade the material to the desired sizes.

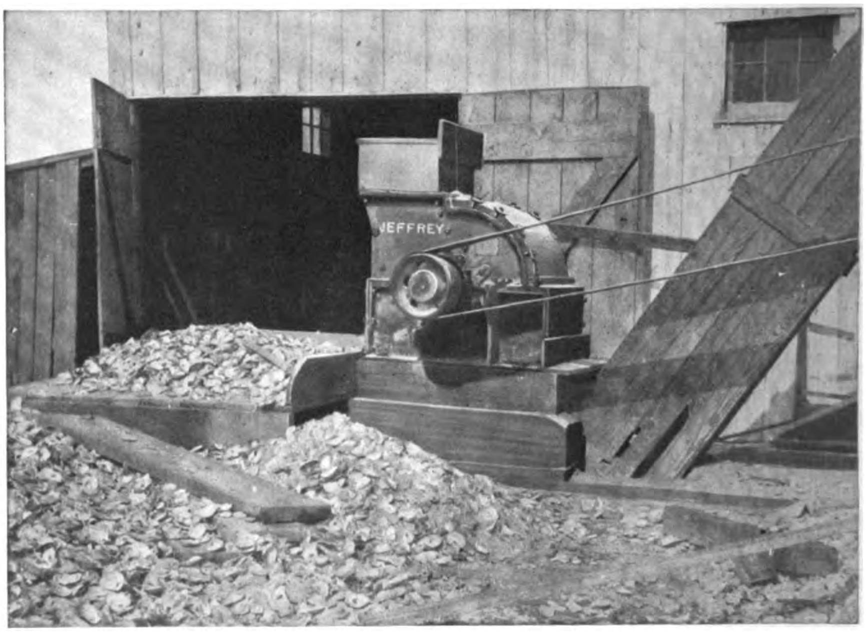
Where only a small capacity is required, it has been found satisfactory to feed air dried shells to the machine.

Where a large capacity is required and it is desirable to operate a machine during all kinds of weather, some type of dryer should be used for removing excess moisture before feeding the shells to the pulverizer.

In using the Swing Hammer Pulverizer for reducing oyster shells it is very important to know whether a fine product is required or whether the shells are to be reduced for chicken grit, as the speed of the machine governs to a large extent the percent of fine material.

Above is shown a Semi-Portable Pulverizing and Screening Equipment for Reducing Oyster Shells, etc., to Agricultural Lime or Chicken Grit.

The opposite view shows a Stationary Equipment consisting of Pulverizer, Elevator and Screening Equipment.



Type "A" Pulverizer for Oyster Shells

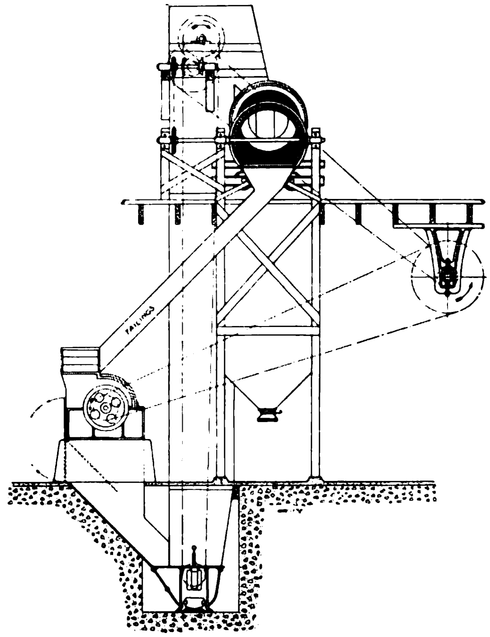
Size Mach. Inches	H. P.	Weight	Chicken Grit		Agricultural Lime	
			Speed	Capacity-Tons	Speed	Capacity-Tons
15" x 8"	8	1100	1200 to 1400	1 to 1½	2200 to 2400	½ to ¾
24" x 12"	12	2200	800 to 900	2 to 3	1500 to 1600	1 to 1½
24" x 18"	20	2700	800 to 900	3 to 4	1500 to 1600	2 to 3
30" x 24"	30	4500	650 to 750	6 to 8	1200 to 1300	4 to 5
36" x 24"	40	6400	550 to 700	10 to 12	1100 to 1200	8 to 10

See page 590 for general dimensions of Type A Pulverizer

Swing Hammer Pulverizers

Type A—Reducing Bones, Tankage and Garbage

Installation View of Jeffrey Type A Pulverizer reducing Dried Tankage



Typical arrangement of Pulverizing equipment for handling Bones, Tankage, Garbage, etc.

As a general thing, grinding problems in Fertilizer or similar plants involving as they do the handling of a variety of materials, require individual treatment. Jeffrey Swing Hammer Pulverizers with their easy adaptability for a wide range of products and capacities, lend themselves to the solution of such problems.

Auxiliary equipment consisting of combinations of Jeffrey Standard Conveyors, Elevators, Screens and Drive Chains can be arranged readily with Jeffrey Pulverizers to form complete material grinding and handling units.

Type "A" Pulverizer for Bone

Size of Machine	H. P.	Weight	Speed	Capacity per hour ⅛" bar openings: Dry Junk Bone	Capacity per hour ⅛" bar openings: Steam Bone
15" x 8"	10	1100	1800 to 2400	600 to 800 lbs.	¾ to 1 ton
24" x 12"	15	2200	1400 to 1600	1 ton	2 to 2½ tons
24" x 18"	25	2700	1400 to 1600	1½ to 2 tons	3 to 4 tons
30" x 24"	40	4500	1150 to 1300	2½ to 3½ tons	5 to 6 tons
36" x 24"	60	6400	1100 to 1200	5 to 6 tons	10 to 12 tons

Type "A" Pulverizer for Dried Tankage and Fish Scrap

Size of Machine	Approx. H. P.	Approx. Weight Pounds	Speed R. P. M.	Approx. Capacity per hour Thru $\frac{3}{16}$" Mesh Screen Bars: Animal Tankage	Garbage Tankage	Fish Scrap
15" x 8"	10	1100	1800 to 2400	1500 to 2500 lbs.	1000 to 1800 lbs.	800 to 1000 lbs.
24" x 12"	15	2200	1400 to 1600	2 to 2½ tons	1½ to 2 tons	1500 to 2000 lbs.
24" x 18"	25	2700	1400 to 1600	2½ to 3 tons	2 to 2½ tons	1 to 2 tons
30" x 24"	40	4500	1200 to 1300	3½ to 4½ tons	2½ to 3½ tons	3 to 4 tons
36" x 24"	60	6400	1100 to 1200	5 to 6 tons	4 to 5 tons	4 to 5 tons

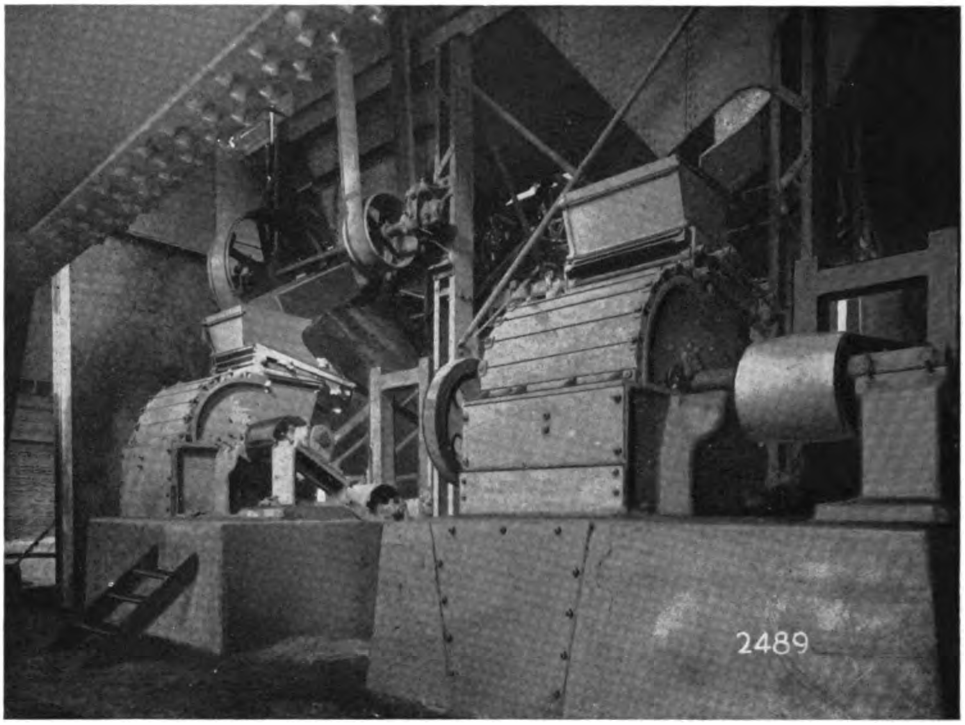
Results secured from Pulverizer with $\frac{3}{16}$" Mesh Screen Bars
Percent passing size Sieve noted

Mesh Hand Sieve	6	10	20	40	60	100
For Animal Tankage	99%	96%	82%	66%	52%	42%
For Garbage Tankage	98%	94%	70%	40%	25%	18%

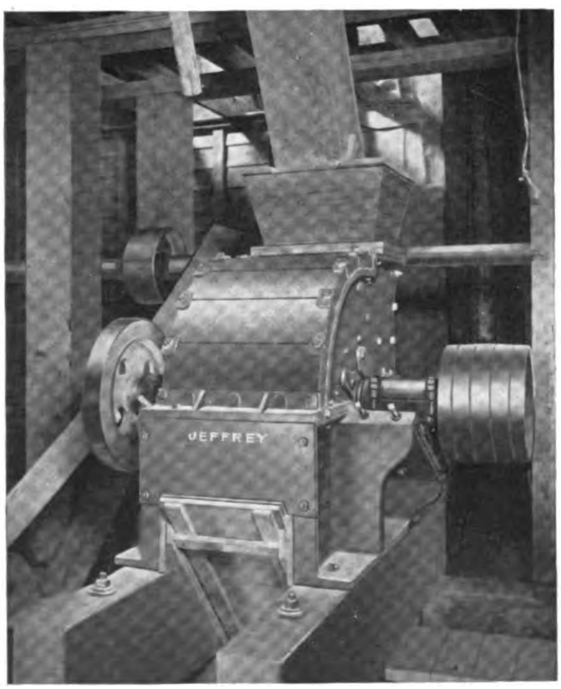
See page 590 for general dimensions of Pulverizer.

Swing Hammer Pulverizers

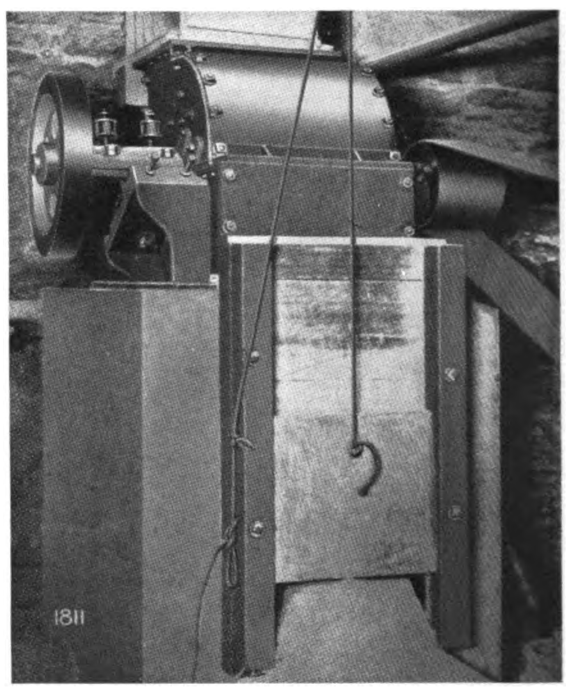
Type A—Reducing other material.



Two Type "A" Swing Hammer Pulverizers in cement mill, reducing limestone for finishing mills.

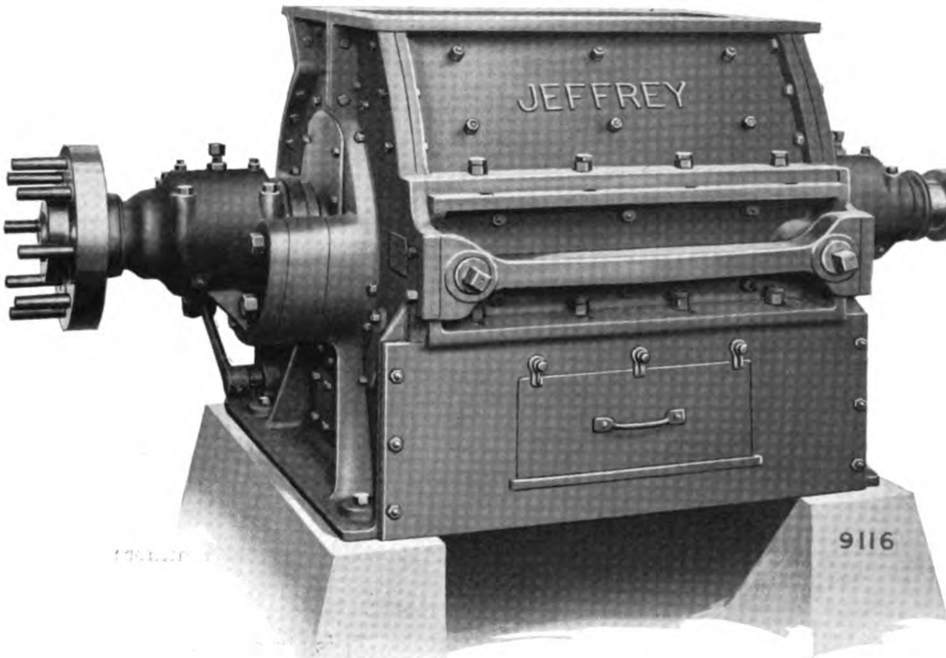


Type "A" Pulverizer reducing gypsum in a Cement Plaster Plant.



Grinding brick bats in a brick works with a Type "A" Swing Hammer Pulverizer.

Type B



Type "B" Pulverizer without Hopper or Feeder Equipment

THIS is a heavier, better built machine than Type "A" and consequently is adapted to a much more severe duty. It has been used successfully on limestone, shale, slate, clay, chalk, marl, gypsum, phosphate rock, asbestos rock, garbage, tankage and many other products.

Top Feed

These machines are fed directly on top of the hammers; the feeding point being much higher than is obtained for the Type "A". This is a distinct advantage, resulting not only in reducing the material very much finer but also in a great saving of power as well.

Drive

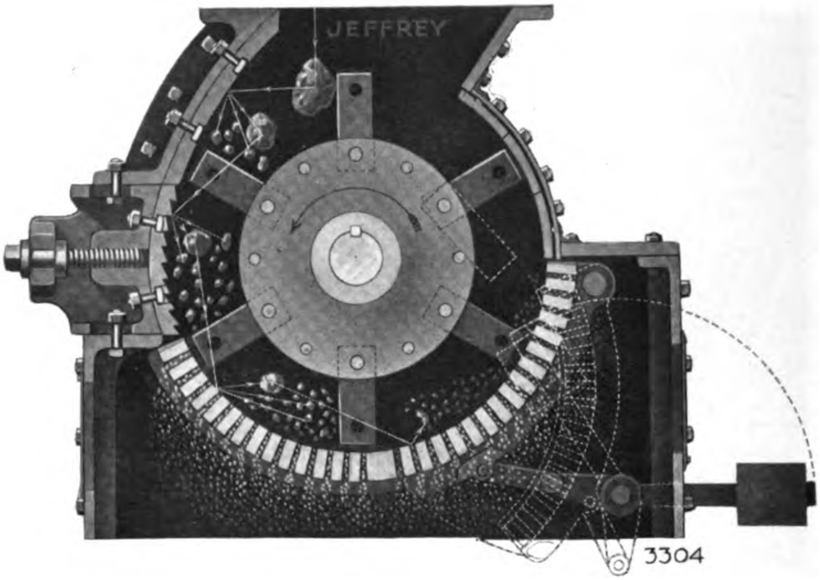
As in the Type "A", these machines are usually belt driven from any convenient source of power, and for this purpose are regularly supplied with heavy cast iron pulleys of the size specified in list (see page 604). These pulleys may be changed within narrow limits both as to diameter and face to suit special conditions. The arrangement of the shaft and bearings on the Type "B" Pulverizer is ideal for drive from direct connected motor, provided a motor can be secured of the proper speed and horse-power. In this case the pulley is omitted and motor coupled directly to pulverizer shaft through a flexible coupling.

Fine Grinding

A grating or screen in the lower part of the pulverizer prevents the ejection of over size particles. The clear width of the slots in this screen can be made of any size down to about $\frac{1}{16}$", but the smaller sized openings restrict the capacity so much that it is usually better to place a coarser mesh screen in the pulverizer to give capacity. The material is then to be screened by devices outside the pulverizer.

Swing Hammer Pulverizers

Type B



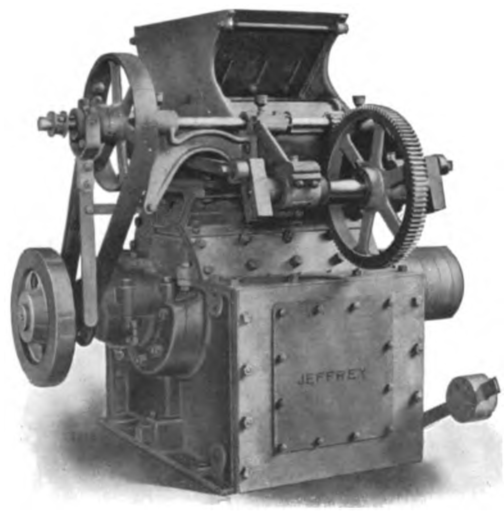
Sectional View of Type "B" Pulverizer showing action of hammers

Outboard Bearing

IT is not difficult to keep a two bearing machine in line, but it is almost impossible to preserve the exact alignment of three bearings on the same shaft. For this reason we have made the shaft extra heavy and used only two bearings whenever practicable. In the larger sizes of these machines, when a heavy belt pull is necessary, we provide an outboard bearing to support the shaft.

Shafts

The shafts are made of high carbon steel. They are extra large in the center and are necked down at either end for bearings. All hammer discs are of steel with spacing rings of cast iron between them. The hammer pins run through from out to out of discs and are secured by spring cotter at either end. By removing a light structural steel plate at each side of the machine, these pins may be removed.



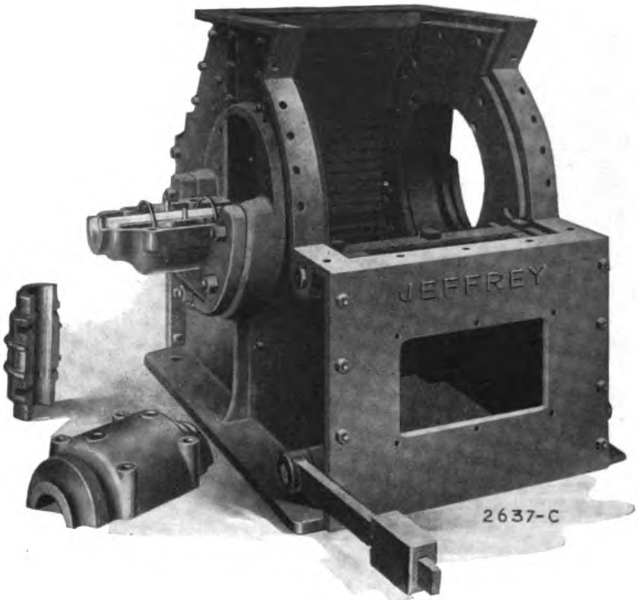
Pulverizer with Plate Feeder for material up to four-inch ring

Hammers

For reducing ores and similar substances, the hammers are regularly made of manganese steel, as this is the very best material for resisting abrasion. For special work these hammers may be made of tool steel.

Swing Hammer Pulverizers

Type B



Frame

THE Type "B" Pulverizer Frame is made very heavy and rigid to avoid spring. The joints are machined, and the drilling is done to templet and jig so that the parts are interchangeable. The parts subject to wear are protected by renewable white iron or chilled face liners. A gap in the end frames allows the shaft equipment to be removed when occasion demands, without dismembering the frame.

Adjustable Breaker Plate

All sizes of Type "B" Machines are provided with an adjustable breaker plate which may be set up close to the revolving hammers. This device has been found very efficient.

It not only insures a finer and more uniform reduction, but does it with less power than is obtained without the use of such a device. The breaker plate is protected from wear by a heavy chilled face corrugated liner bolted to its face.

Bearings

All the bearings on Jeffrey Type "B" Pulverizers are of the self-aligning ring oiling Dynamo Type, lined with a removable phosphor bronze bushing. This bushing may be removed at any time by simply taking the weight of the shaft off the bearing and removing cap. The bearings have large cavities for oil and are packed against dust.

Ring Oiling Self-Aligning Dynamo Bearing with Bronze Linings

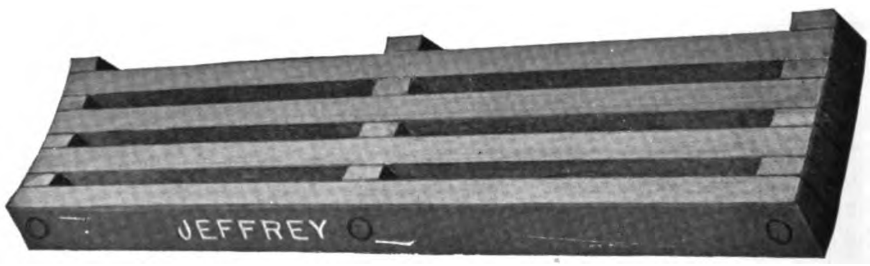
Swing Hammer Pulverizers

Type B

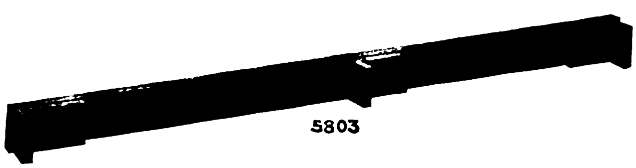
Drop Bottom

THE first half of the screen bars are set in grooves formed in the frame of the machine and are thus held rigidly in place. They are replaced through an opening in the side frames. This can be readily done without interfering with the adjustment of any other parts of the machine. The last half of the screen bars are set in a frame pivoted near its top and held firmly in operative position through a system of levers and toggles by a weight lever extending outside of the frame of the machine in such a manner that throwing over the weight lever will lower the frame and open up the bottom to allow the egress of any foreign material, such as pieces of iron, etc., which may have found their way into the machine. This operation may be and usually is performed while the machine is in motion. It will be found particularly valuable in reducing such material as may contain foreign matter, such as pieces of iron, etc.

Screen Bars



The screen bars for this type of pulverizer are regularly made of either a high carbon or manganese steel, rectangular in cross section. For clear openings of from 1/8″ to 1″ these bars are riveted in sections with filling blocks between them to give the proper spacing. We have patterns for these spacing blocks for all sizes of Type "B" machines to give clear openings between the bars of 1/8″, 1/4″, 3/8″, 1/2″, 3/4″ and 1″.

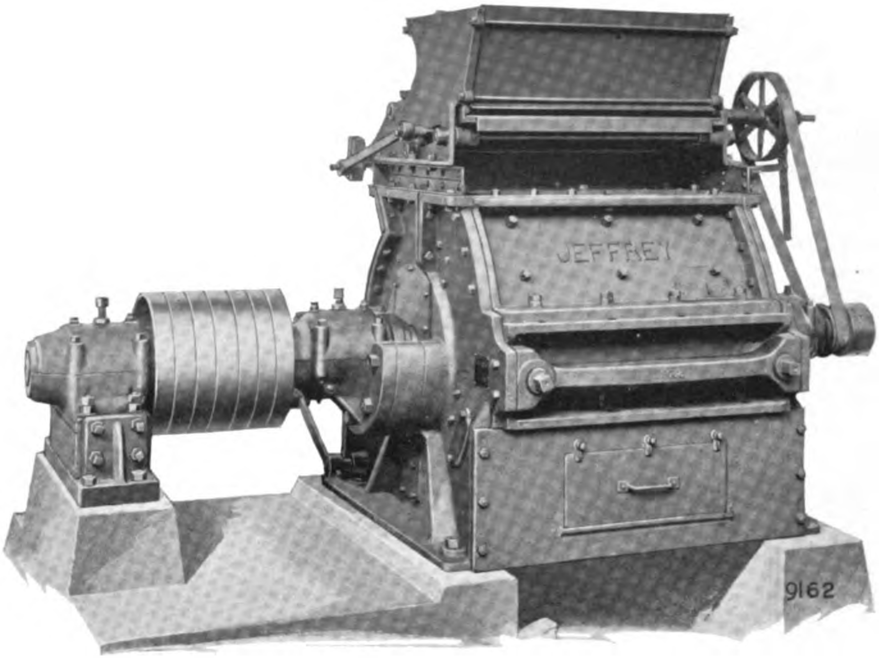


Heavy Screen Bars for meshes greater than one inch.

For openings greater than 1″, steel angle clips are riveted on the bars to give the proper spacing. The bars are then laid in the machine individually so that the points of the clips of one bar rest against the back of the next bar and so preserve the spacing.

Swing Hammer Pulverizers

Type B

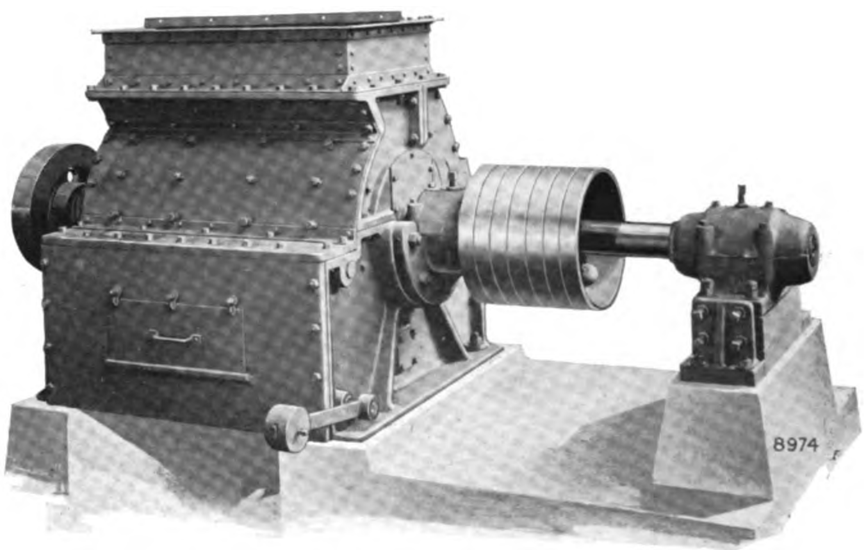


Hopper

THE equipment furnished with a Type "B" Pulverizer depends in a great measure on the use to which it is to be put. When material is fed from a belt conveyor or elevator, it is usually sufficient to build a suitable steel hopper on top of the standard machine. Such hoppers are shown in the lower illustration on this page and also in the illustration on page 601.

Feeder

In most cases, we prefer to use a reciprocating plate feeder for regulating the amount of material to be fed to the machine. We have arranged a drive for this feeder directly off of the pulverizer shaft so that the machine will be self-contained. By the use of this feeder, the material may be taken directly from storage bins and delivered to machine at any required rate, for they are both adjustable, both as to length of stroke and amount of throat opening. We build these feeders in two different types. The one at the top of this page and at the bottom of page 596 is used for handling Limestone and similar substances when reduced to sizes which will pass a four inch ring. The feeder shown in the lower illustration on page 601 will handle large pieces of limestone and similar material.



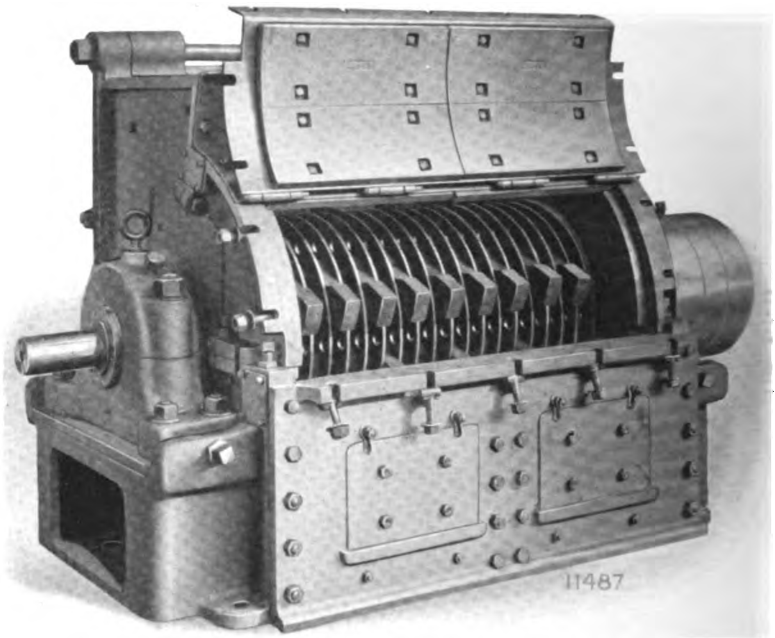
Swing Hammer Pulverizers

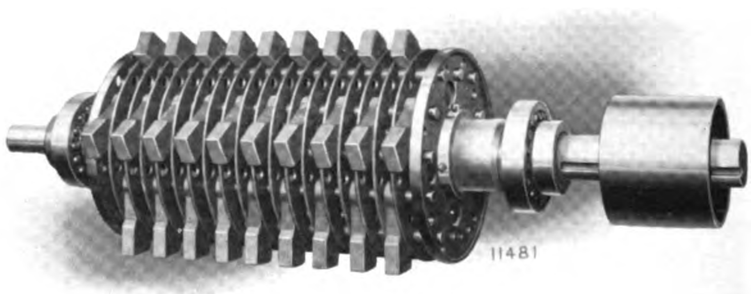
Type B—Ball Bearing Pulverizer

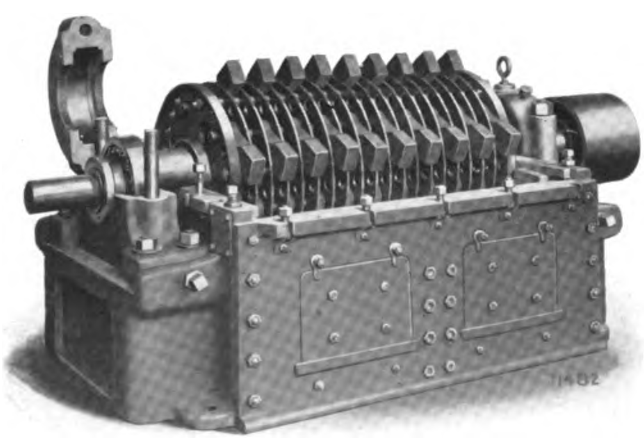
THE 42″ x 48″ Jeffrey Type "B" Ball Bearing Pulverizer is an extra large machine with all parts of heavy construction and is specially adapted for large capacities and severe duty.

This machine has proven very satisfactory in cement mills as a break down pulverizer for preparing the limestone and shale for fine grinding mills.

The shaft of the 42″ x 48″ Type "B" Ball Bearing Pulverizer is extra large in diameter being larger in the center than at the ends, consequently of sufficient size to insure against springing under the most severe working conditions. The shaft is made from a high carbon hammered steel, machined and fitted with care. It revolves in the







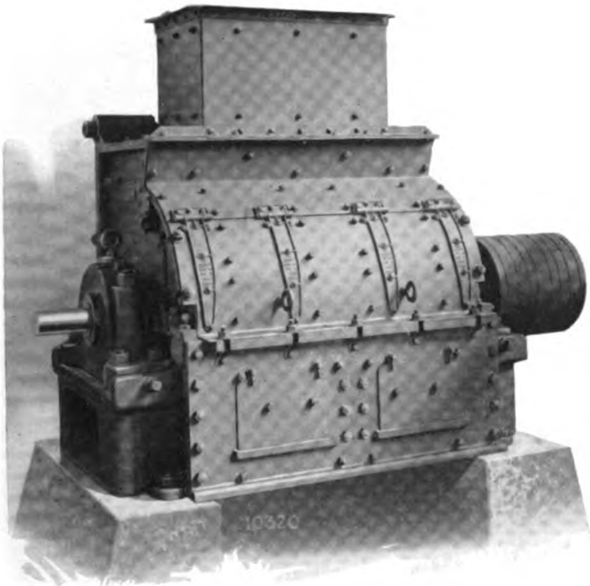
highest grade radial Ball Bearings which have given better service than any other bearing known.

The hammer drum is made up of heavy plate steel center discs while the end discs are of cast steel with long hubs which hold them square on the shaft and are provided with a flange at the outer edge to protect the end of the hammer pin from wear.

The large diameter discs form a cylinder of sufficient size to aid in maintaining the speed when the pulverizer is receiving an irregular load and serves the same purpose as the balance wheel.

Swing Hammer Pulverizers

Type B Ball Bearing Pulverizer

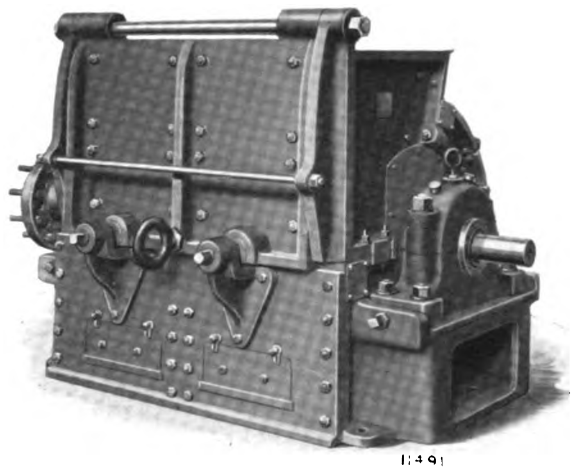


THE discs are supplied with hammer rod holes arranged in a spiral form to allow the placing of the hammers on a larger circumference as they become worn. In addition to the adjusting of the hammers to provide for a greater amount of wear, this pulverizer is also provided with an adjustable breaker plate which can be easily adjusted while the machine is in motion.

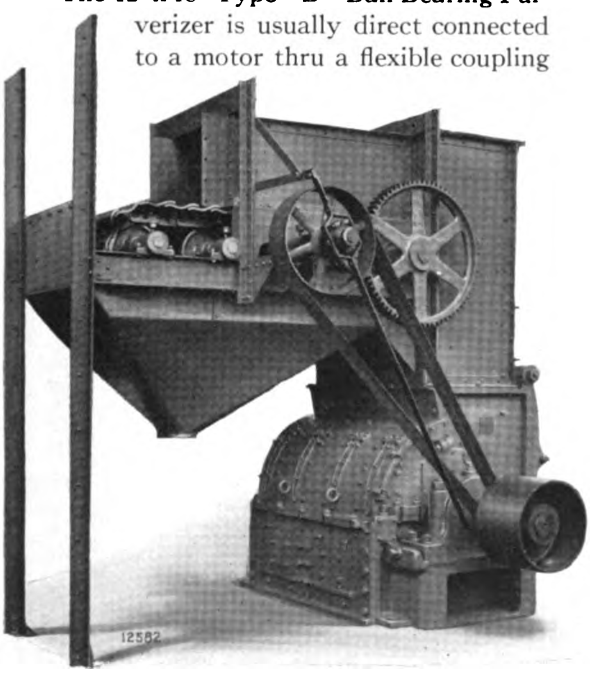
The material is fed to the 42" x 48" Type "B" Ball Bearing Pulverizer directly on top of the hammers the same as to the other Type "B" Pulverizers which has a distinct advantage of reducing the material much finer with a given size of openings between the bars and a great saving of power.

This machine is provided with racks for spacing the screen bars and a variety of different size openings can be had simply by changing the racks, the same bars serving for the different sized openings.

The 42"x48" Type "B" Ball Bearing Pulverizer is usually direct connected to a motor thru a flexible coupling altho it will operate equally as well belt driven, as the ball bearings allow the drive pulley to be placed up very close to the side of the machine and with the extra large shaft either method of driving the machine will prove satisfactory.



Rear View of Type B Pulverizer showing its rigid construction.



Jeffrey 42"x48" Type B Ball Bearing Pulverizer with Apron Feeder.

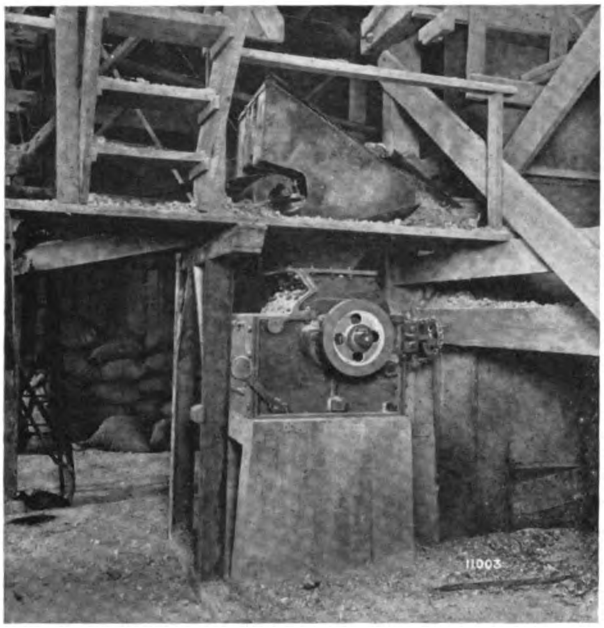
The 42" x 48" Type "B" Ball Bearing Pulverizer can be supplied with a plate feeder similar to that supplied for the other sizes of Type "B" Pulverizers when feeding medium size material and can also be supplied with an apron type of feeder suitable for feeding large pieces of stone.

The feeders are operated directly from the main shaft of the pulverizer and are provided with a suitable clutch so that the feed can be cut off instantly whenever desired.

All joints of the pulverizer are machined making it dust tight.

Swing Hammer Pulverizers

Type B—Reducing Tankage, Garbage and Bone



Type "B" Pulverizer in operation in a Garbage reduction plant.

Type "B" Swing Hammer Pulverizer handling Green Garbage.

THE Jeffrey Type "B" Pulverizers are particularly adapted to the reduction of materials containing moisture, due mainly to the location of the feed opening. The material being fed in the machine at the top allows the hammers to come in contact with the material for a greater length of time than the other types of pulverizers thus making a satisfactory product with larger openings between the screen bars.

By having the larger openings the moist material more readily passes out of the machine thus providing a very satisfactory means of reducing green garbage.

Type "B" Pulverizer for Bone

Size of Machine	H. P.	Weight	Speed	Capacity per hour ⅛" bar opening	
				Dry Junk Bone	Steam Bone
24" x 20"	40	4000	1400 to 1800	2½ to 3½ tons	5 to 6 tons
36" x 24"	75	9600	1150 to 1300	6 to 8 tons	12 to 14 tons

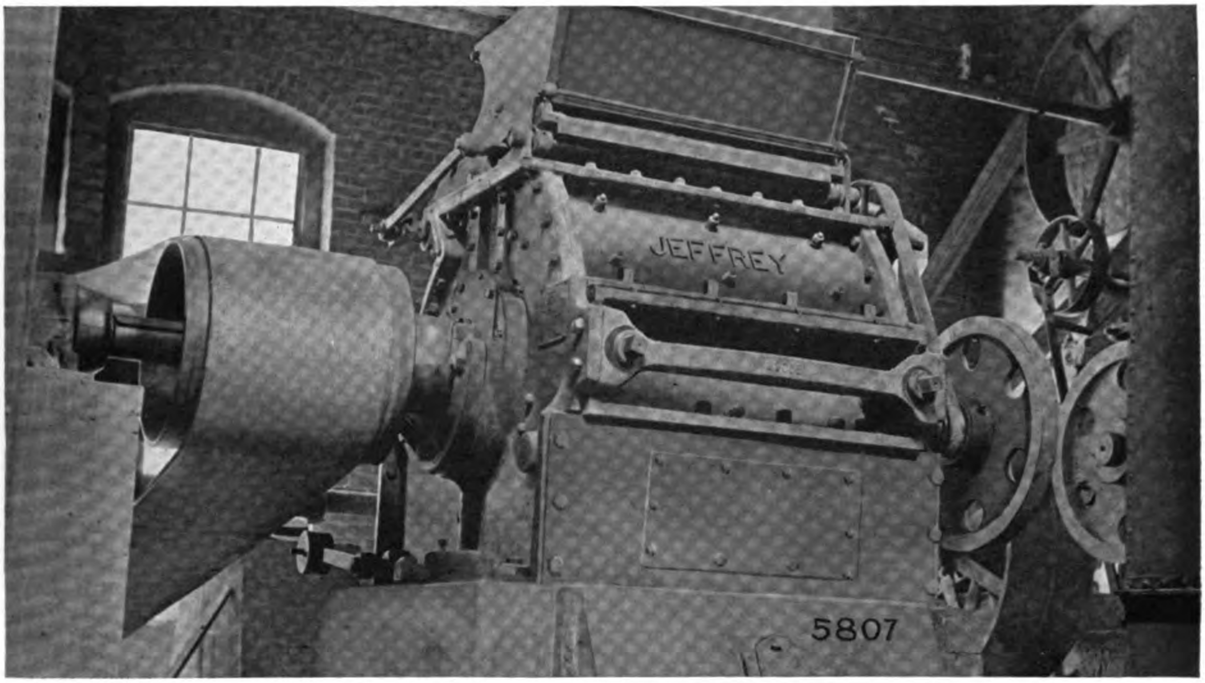
Type "B" Pulverizer for Dried Tankage

Size of Machine	Approx. H. P.	Approx. Weight Pounds	Speed	Approx. Capacity per hour Thru $\frac{3}{16}$" Mesh Screen Bars	
				Animal Tankage	Garbage Tankage
24" x 20"	25	4000	1300 to 1500	3½ to 5 tons	2½ to 3½ tons
36" x 24"	60	9600	1160 to 1200	6 to 8 tons	4½ to 6 tons

See Page 604 for general dimensions of pulverizers.

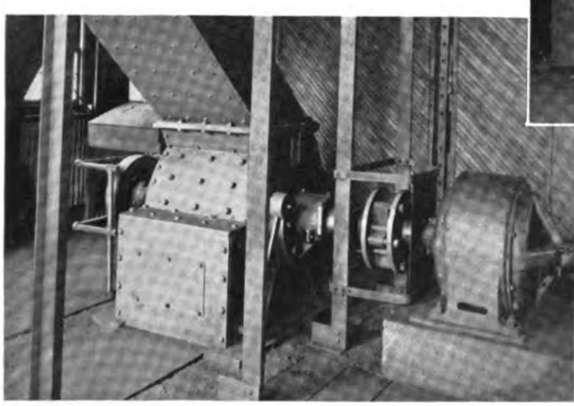
Swing Hammer Pulverizers

Type B



Jeffrey Type "B" Swing Hammer Pulverizer reducing dry limestone for the tube mill feed.

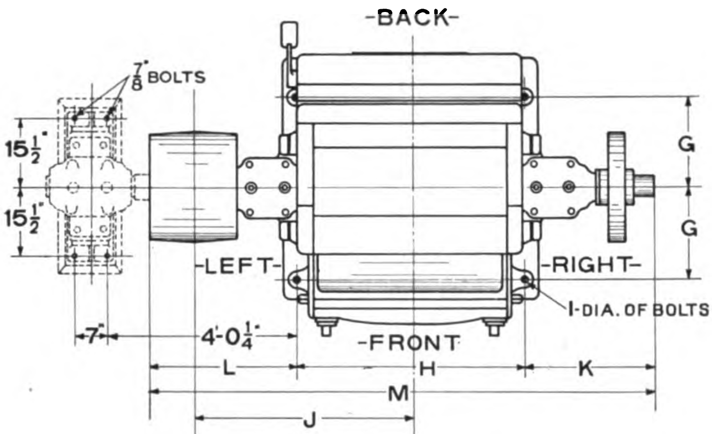
The right hand illustration shows a Jeffrey Type "B" Pulverizer Direct Connected to Electric Motor through a flexible coupling, operating in a cement mill.



At the left is shown a Jeffrey Type "B" Pulverizer in operation at a large Gas Coke By-Products Plant.

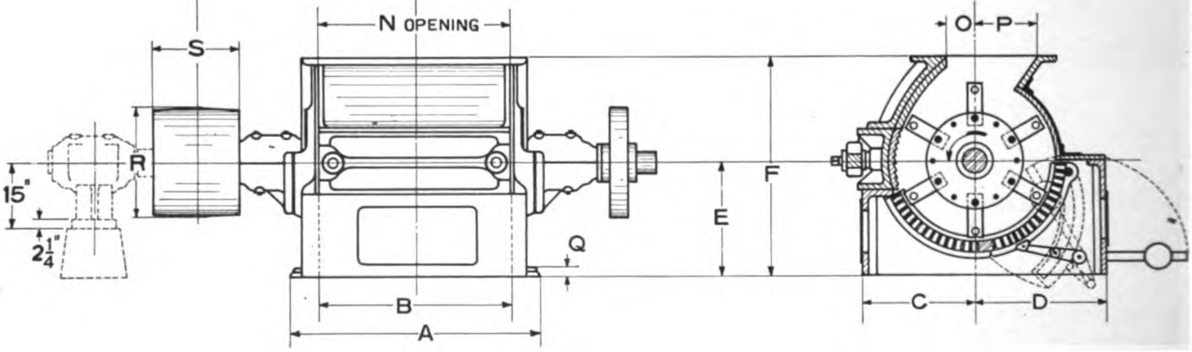
Swing Hammer Pulverizers

Type B



When ordering Pulverizer, be sure to state on which side driving pulley is wanted. Pulverizer will be shipped assembled as shown unless otherwise ordered.

This outline gives approximate dimensions only. For detail setting plan, ask for certified print.

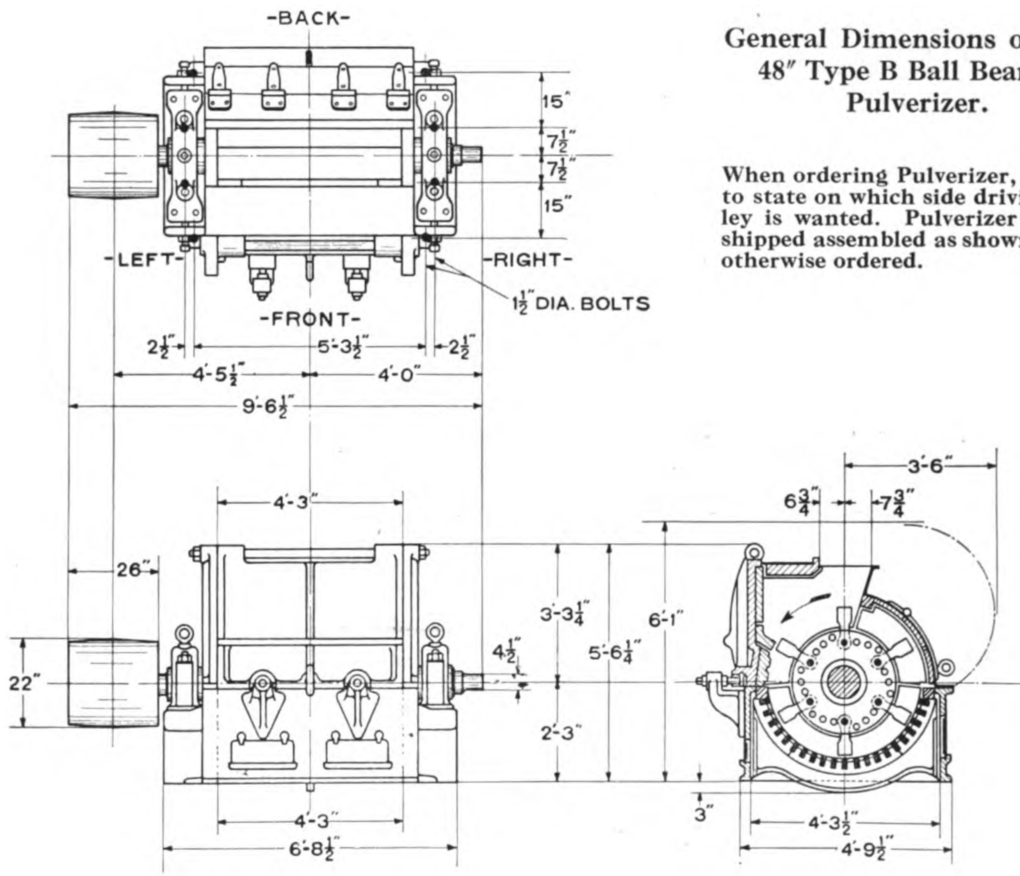


Size of Machine Inches	Dimensions in Inches																	Pulley		
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	Dia. R	Face S	Bore T
24 x 20	32½	21½	19	22	20	36½	13½	29	1⅛	29¼	19½	20½	69	21½	4½	10½	1¾	12	11½	3 7/16
36 x 24	40¾	26¾	26	30½	26	49½	20½	34¾	1¼	38½	29¼	29¼	93¾	26¾	7	15¼	2¼	18	18	4 7/16
*36 x 42	58¾	44¾	26	30½	26	49½	20½	52¾	1¼	49½	30¾	36	119½	44¾	7	15¼	2¼	18	23	4 15/16

*** This size is ordinarily fitted with outboard bearing as shown by dotted lines.**

Swing Hammer Pulverizers

Type B



General Dimensions of 42" x 48" Type B Ball Bearing Pulverizer.

When ordering Pulverizer, be sure to state on which side driving pulley is wanted. Pulverizer will be shipped assembled as shown unless otherwise ordered.

Type "B" Limestone Pulverizer

Size of Machine	Pulley	Approx. H. P.	Approx. Weight Lbs.	Speed	Floor Space	Feed Opening	Approx. Cap'y Limestone, etc.	
							⅛" and finer	½" and finer
24" x 20"	12"x10"	35 to 40	4000	1500 to 1700	5'- 9" x 3'-4"	6"x20"	4 to 5 tons	10 to 15 tons
36" x 24"	22"x15"	60 to 75	9600	1000 to 1200	7'- 9" x 4'-8"	7"x24"	10 to 12 tons	25 to 35 tons
36" x 42"	22"x24"	100 to 125	12000	1000 to 1200	9'-11" x 4'-8"	7"x42"	20 to 25 tons	50 to 70 tons
42" x 48"	24"x25"	150 to 250	26000	700 to 1000	9'- 2" x 5'-0"	14"x46"	30 to 40 tons	125 to 175 tons

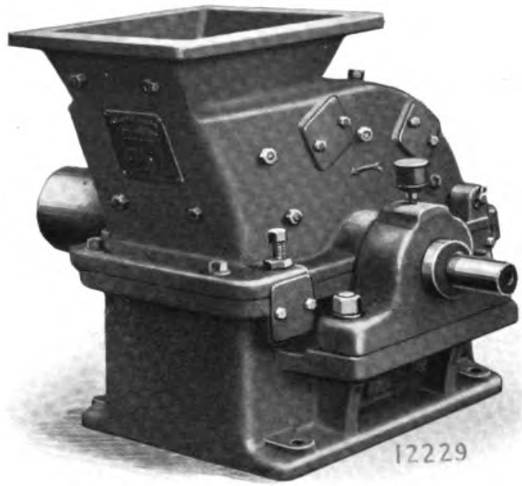
Add to the above capacities about 25% for Gypsum.

Type "B" Coal Crusher

Size of Machine	Pulley	Approx. H. P.	Approx. Weight Lbs.	Speed	Floor Space	Feed Opening	Approx. Cap'y Run Mine Coal ¼" to Dust per hour
24" x 20"	12"x10"	15 to 18	4000	1200 to 1400	5'-9" x 3'-4"	15"x20"	20 to 25 tons
36" x 24"	22"x15"	50 to 60	9600	900 to 1100	7'-9" x 4'-8"	22"x24"	50 to 60 tons
36" x 42"	22"x24"	90 to 100	12000	900 to 1100	10' x 4'-8"	22"x42"	90 to 100 tons

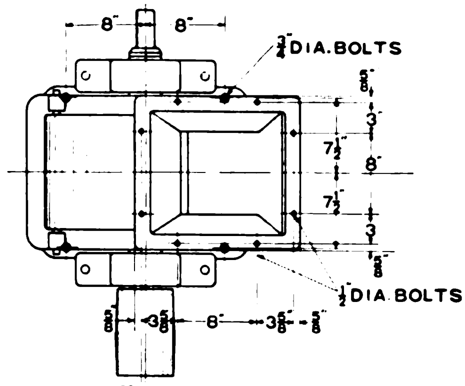
Swing Hammer Pulverizers

Junior Pulverizer



For Laboratory Use

THIS machine is built especially for laboratory use in reducing many materials to a fine uniform product for various purposes. It is especially useful in sampling coal and various ores, as it not only reduces the sample to a comparatively fine product, but thoroughly mixes it into one homogeneous mass. It also has a place in many industries where a heavy duty or large capacity is not required.

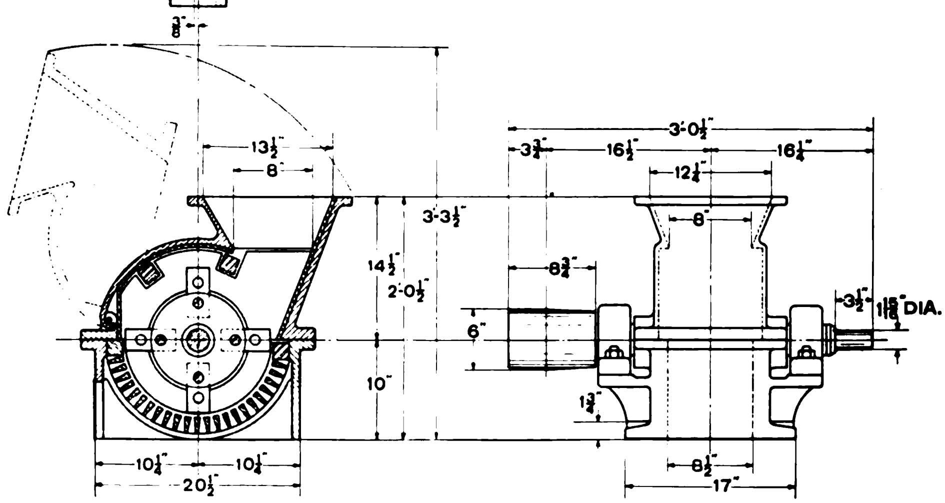


Shipping weight, 1200 lbs.

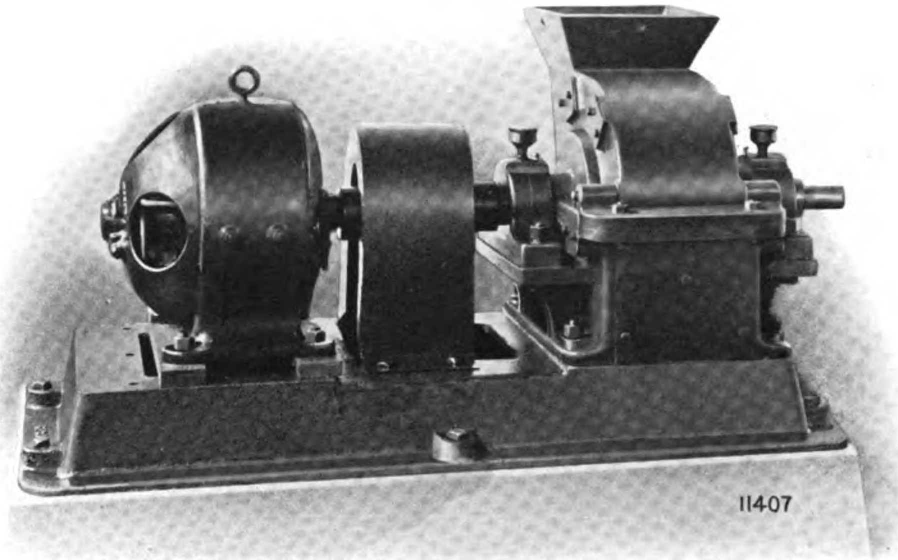
Average speed, 1800 to 2400 R. P. M

Average horse-power, 7 to 10.

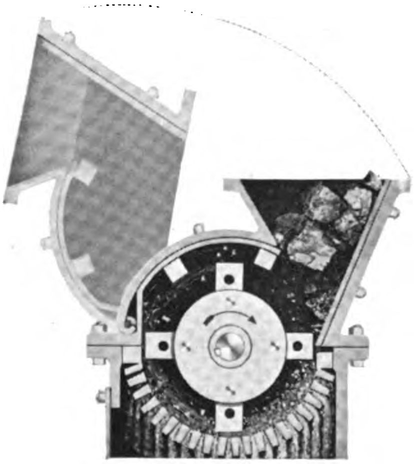
Average capacity of coal, 1000 lbs. per hour.



Junior Pulverizer

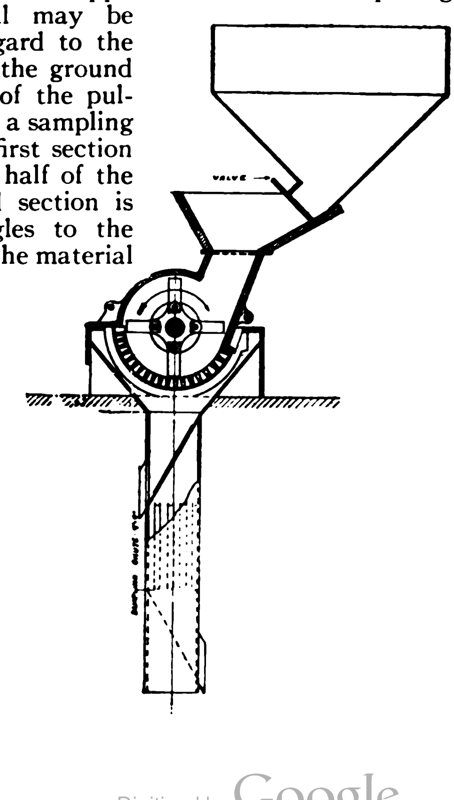


A very fine laboratory outfit consisting of a Pulverizer direct connected to an electric motor. Both are mounted on a single cast iron base and may be placed in any convenient position and are furnished complete ready to run.



For Sampling Coal

FOR sampling coal and kindred uses, the arrangement shown on the right will be found quite useful. It consists of a hopper large enough to hold a batch in which the material is held by a sliding valve at the bottom. This discharges into a second hopper which leaves an opening into which material may be shoveled without regard to the upper hopper. As the ground material passes out of the pulverizer it is caught in a sampling chute below. The first section of this chute rejects half of the material, the second section is placed at right angles to the first and rejects half the material passing through the first section and so on each section rejecting half of the material fed to it from the section above. It is usual to use four sections of sampling chutes so that but one-sixteenth of the original material is delivered at the bottom of the chutes, but this material will be a true sample of the whole lot.



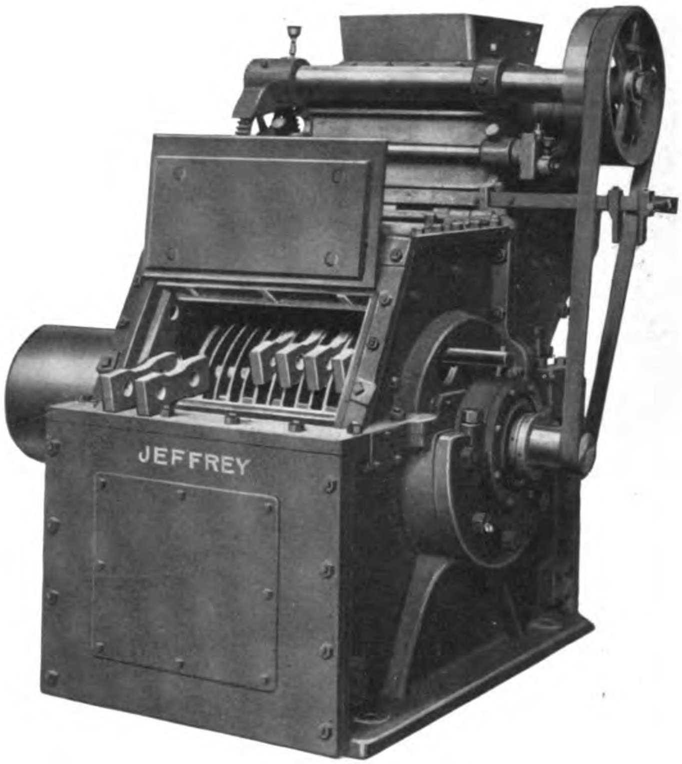
The sampling chute beneath the pulverizer is supplied in one size only and of suitable size for our laboratory pulverizer.

The construction and size of the hoppers will vary so with different conditions that we have never furnished them but simply offer it as a suggestion to the purchaser.

In addition to the above uses the laboratory pulverizer is a valuable machine in a steam power plant for reducing scrap fire brick to a suitable product for preparing mortar when relining the furnaces. This machine will also prepare scrap asbestos pipe covering so that it can be used again.

Swing Hammer Pulverizers

Type D



Type "D" Machine—Showing Method of Changing Hammers.

THE Jeffrey Type "D" Machine is primarily designed and constructed for reducing Limestone, Shale, etc., and can readily reduce many other rocks and minerals, in fact, any friable material, to a powdered form, the reduction being more or less according to the speed and equipment. **Note the screening result from a pulverizing test of samples of Ohio limestone in pieces of from 2" to 3" passing once through a 36" x 24" Type "D" Pulverizer.**

Material	Screen Bar Openings	Speed	Capacity Tons Per Hour	Screen Analysis of Product — Per cent. Passing Screen Indicated			
				10 Mesh	20 Mesh	40 Mesh	100 Mesh
Limestone 97% Calcium Carbonate	1/8"Mesh Bars	1160	10 to 12	99%	89%	76%	57%
	No Bars	1160	30 to 40	70%	54%	38%	19%

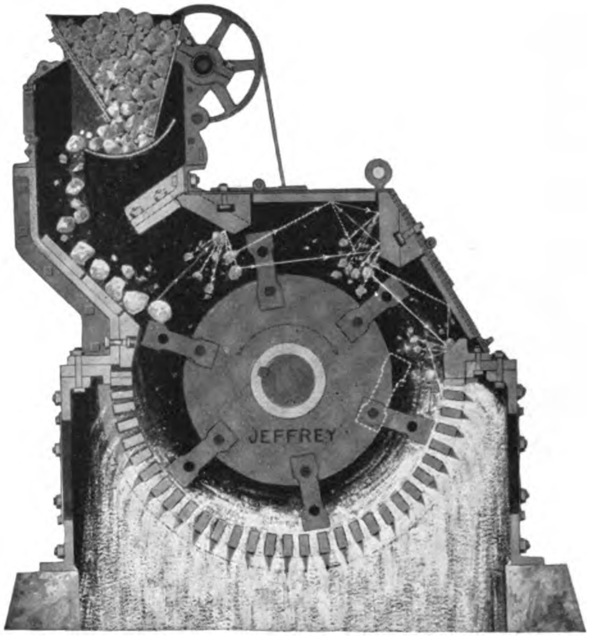
To obtain the best results the material should be dry and in size not greater than a 3½-inch ring. Send us samples of your material and ask us for additional information about the wide range of service of this machine.

Speed

The correct speed will average between 1000 and 1200 R. P. M. If you will send us a sample of, say 50 pounds, of the material, in the condition in which it is to be fed to the machine, we can determine the exact speed for any specified reduction within the limits of the machine.

Swing Hammer Pulverizers

Type D



Sectional View of Type "D" Pulverizer showing the Method of Reducing Material.

Drive

THIS machine may be driven by a direct connected motor of proper power and speed. In that case a flexible coupling is substituted for the main drive pulley.

Impact Crushing

Our Type "D" Pulverizer engages the material on the up stroke of the hammers. Three breaker plates are arranged at intervals about the upper portion of the grinding case in such a way that the material is violently tossed back and forth between the rapidly revolving hammers and the anvil faces of the breaker plates. Consequently the reduction is mostly by impact, and the material being the same, the degree of reduction varies with the peripheral speed of the hammers.

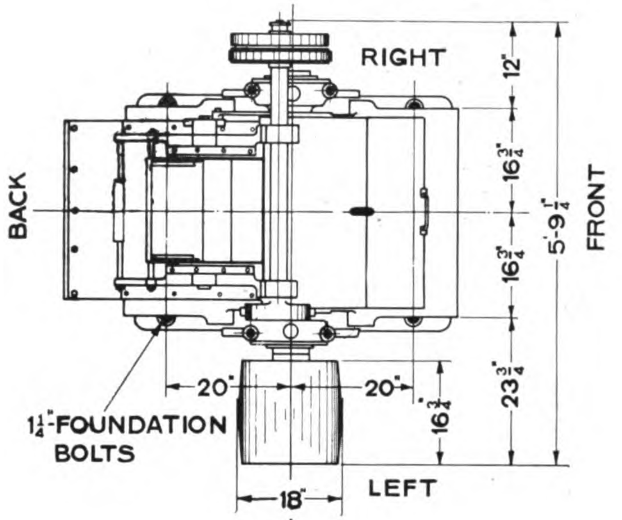
Feeders

An automatic feeder suitable for regulating the flow of material from a storage bin is regularly supplied with each machine. This feeder is so enclosed and protected by a steel hopper that any overflow caused by the operation of the feeder valve is dropped directly into the machine, and hence there is no material dribbling over the sides of the feeder. The length of the stroke, the position of the valve plate and the throat opening are each adjustable through wide enough limits to regulate the flow of any material within the limits of the machine. In a few cases where a feeder is unnecessary, it can be replaced by a plain steel hopper.

Hammers same as used in Type A, see page 587. Screen Bars similar to those used in Type B, see page 598.

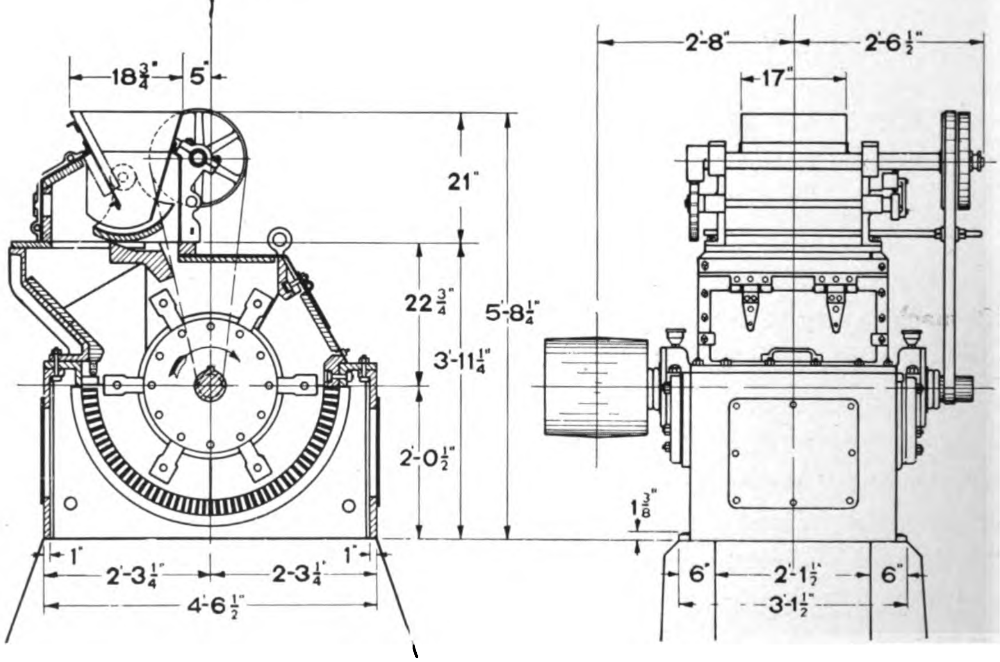
Swing Hammer Pulverizers

Type D



General Dimensions of 36″ x 24″ Type D Ball Bearing Pulverizer.

When ordering Pulverizer, be sure to state on which side driving pulley is wanted. Pulverizer will be shipped assembled as shown unless otherwise ordered.



Power

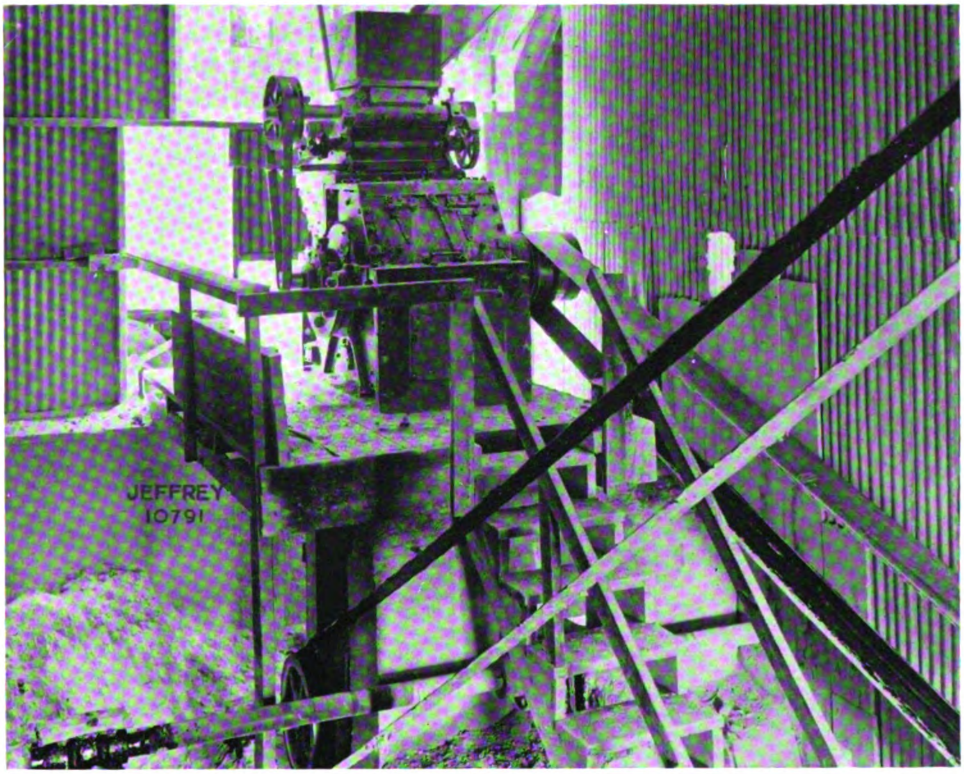
WE find so much difference as to power requirements under different conditions that we can only specify the power when all the conditions are known. When proper fineness can be obtained at a low speed, very much less power will be required than when high speed is necessary.

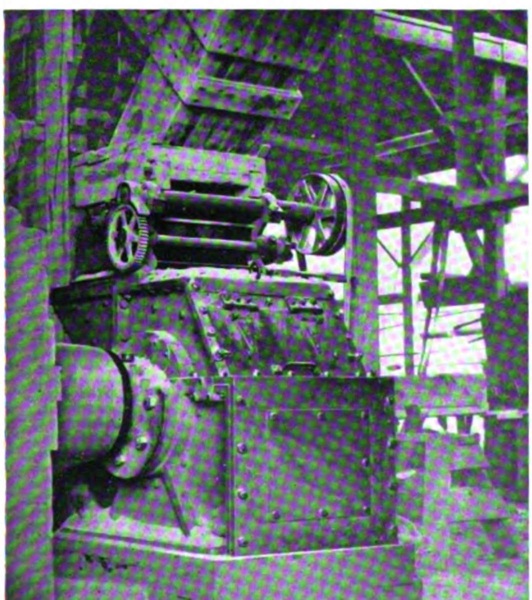
There is no grinding—no terrific wear on the machinery for by this principle the lime-rock is struck in the air, batted back and forth without friction, without impact.

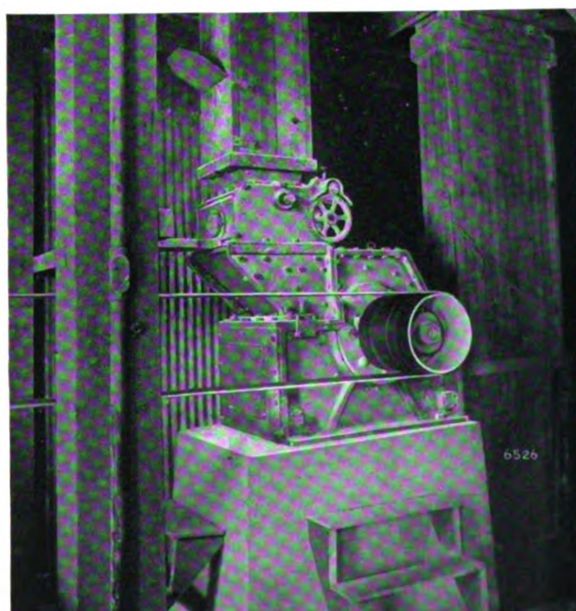
Every part of our Pulverizers are built as accurately as human hands and perfect equipment can make them.

Swing Hammer Pulverizers

Type D







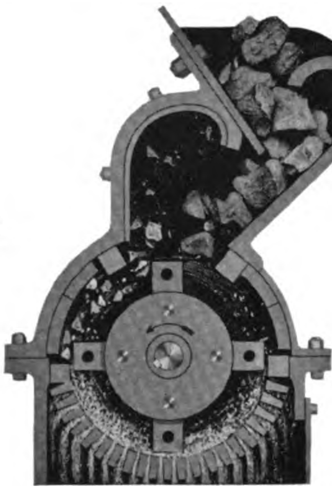
Typical installations of Jeffrey Type "D" Swing Hammer Pulverizer in quarry service reducing limestone.

Swing Hammer Pulverizers

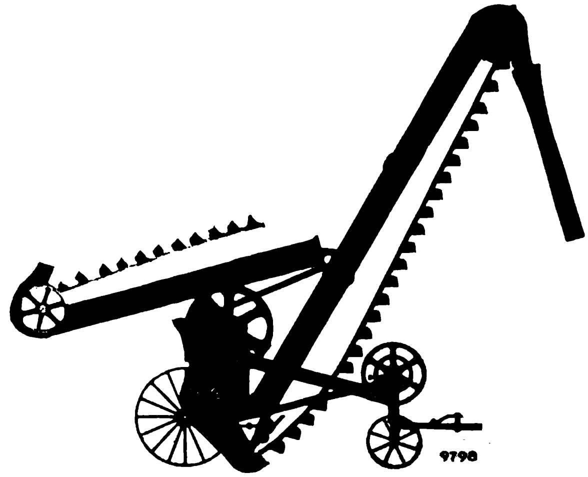
Limepulvers

JEFFREY Limepulvers are built in four sizes to meet the requirements of the various localities and conditions. They are of heavy rugged construction and all parts exposed to wearing action are thoroughly lined throughout with heavy renewable liners, while the hammers and screen bars are of a high grade of steel specially treated to resist wear. For complete information, write for Bulletin No. 358.

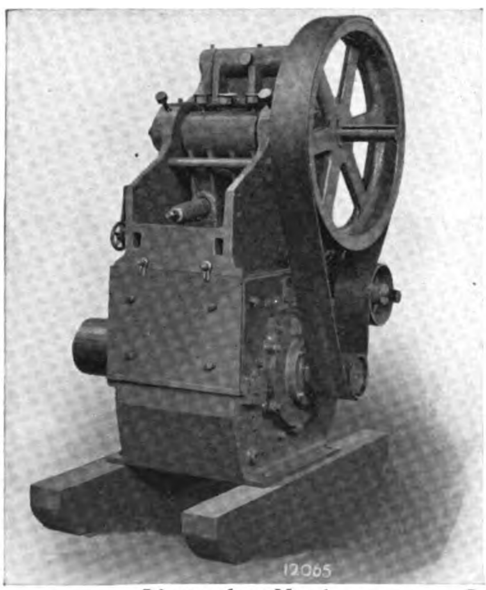
Limepulver Junior



Exterior and Sectional Views of Limepulver Junior



Limepulver No. 2



Limepulver No. 4

THE Limepulver Junior shown above has been designed to meet a popular demand for a small machine to make pulverized limestone; also grinds other materials such as feed, bone, oyster shells, etc., to perfection.

Jeffrey Limepulver No. 2 is both a crusher and pulverizer in one complete, compact machine, having a medium capacity as given in table below. Can be furnished mounted on skids or truck with or without elevator.

The Limepulver No. 4 is the largest type of Combination Crusher and Pulverizer, and is especially recommended for commercial work. This machine will take rocks eight inches thick by fifteen inches wide and any length, reducing them in one operation to either crushed or pulverized limestone. The No. 4 machine is sold mounted on skids only.

Limepulver Junior

Approx. H. P.	Weight—Lbs.	Speed R. P. M.	Pulley	Size Feed	Approx. Capacity Limestone $\frac{3}{16}''$ mesh bar
10	1200	1800 to 2200	6″ Dia. x 8½″ Face	4″ x 6″ and Finer	1 Ton per Hour

No. 2 Limepulver

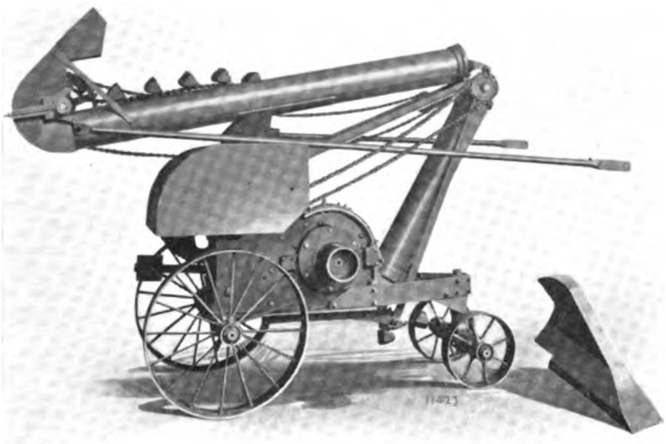
Approx. H P.	Weights On Skids	Weights Complete	Speed R. P. M. of Pulver	Speed R. P. M. Countershaft	Countershaft Pulley	Feed Max. Size	Approx. Capacity Tons Per Hour Crushing	Approx. Capacity Tons Per Hour Grinding
15	2200	2800	1800 to 2000	600 to 700	12″ Dia. x 8½″ Face	5″ x 8″	1½ to 2	1 to 1½

No 4 Limepulver

Approx. H. P.	Weight on Skids	Speed R. P. M.	Pulley	Maximum Size Feed	Approx. Capacity tons per hr. Crushing	Approx. Capacity tons per hr. Grinding ⅛″ mesh bars
60	6500	1200 to 1400	10″ Dia. x 11″ Face	8″ thick by 15″ wide	8 to 10	5 to 6

Swing Hammer Pulverizers

Limepulvers



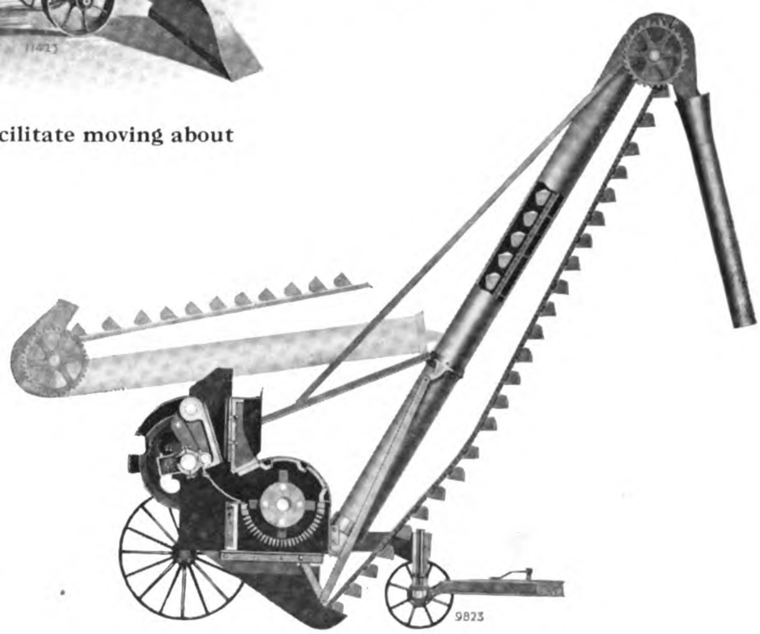
Limepulver No. 3 Collapsed to facilitate moving about

THE Jeffrey Limepulver—Our Type "D" Combination Crusher and Pulverizer is the only machine built which performs the double purpose of crushing rock of quarry size, and pulverizing all of it, to the fineness recommended by authorities for soil treatment.

When the big rocks are fed into the hopper, powerful jaw crushers bite into them, and crush them to the size of rock usually used for road work.

From the crushing jaws the rock drops automatically into the hammer drum.

In one operation the work is done. Out of the funnel pours a solid stream of ground limestone.



Cross Section of Limepulver No. 3 Mounted on Truck

The machine is well mounted and can be hauled on its own wheels.

The crushing jaws are of special hardened steel, designed for the most severe duty.

The machine is driven through a single pulley on the Swing Hammer Drive Shaft. Capacity 2 to 3 tons per hour, depending upon the nature of the rock and the fineness to which it is to be reduced.

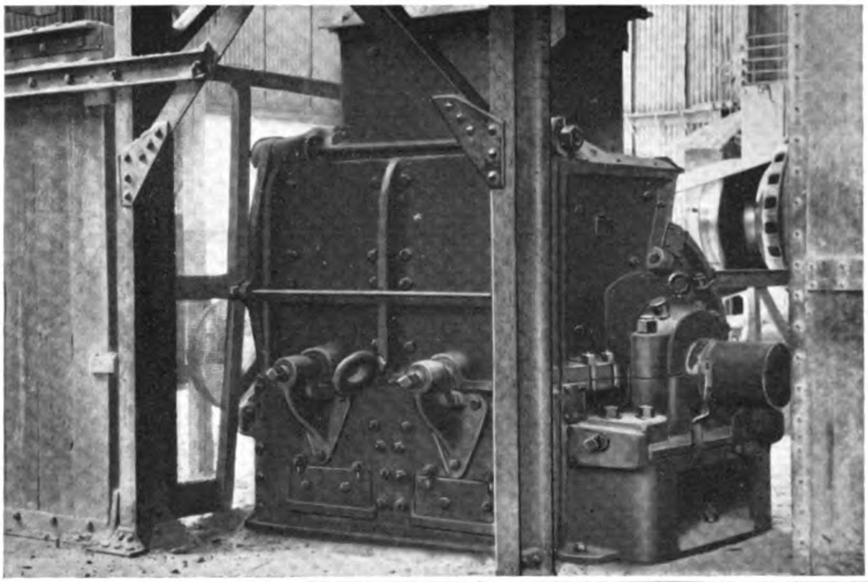
The finished product, after passing through the screen bars, drops into the elevator, which delivers it at the right height for loading.

No. 3 Limepulver

Approx. H. P.	Weights		Speed R.P.M.	Pulley Size	Feed Max. Size	Approx. Capacity Tons per Hr.	
	On Skids	Complete				When Crushing	Grinding 1/8" mesh bars
25	3600	4500	1500 to 1800	8" Dia. x 10½" Face	4" Thick x 11" Wide	3 to 4	2 to 3

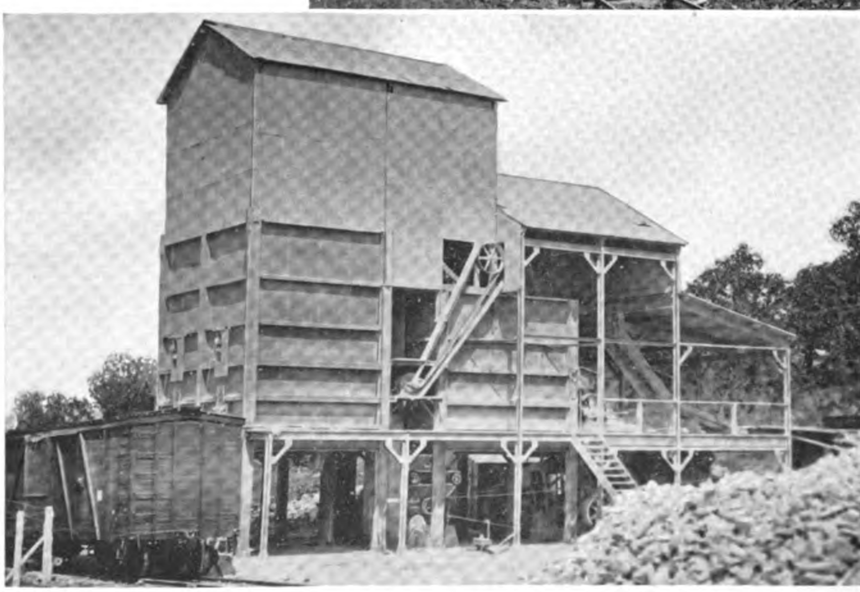
Swing Hammer Pulverizers

Typical Pulverizing Plants designed by Jeffrey Engineers and completely equipped with Jeffrey Pulverizing and Handling Equipment.



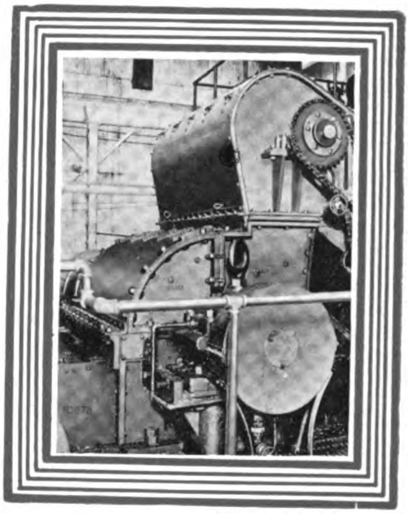
At the left is shown a Jeffrey Type B Ball Bearing Pulverizer installed in a large grinding plant for the reduction of limestone.

In the views at the right and below are shown complete pulverizing plants designed by Jeffrey Engineers and fully equipped with Jeffrey Pulverizing and Handling Equipment.



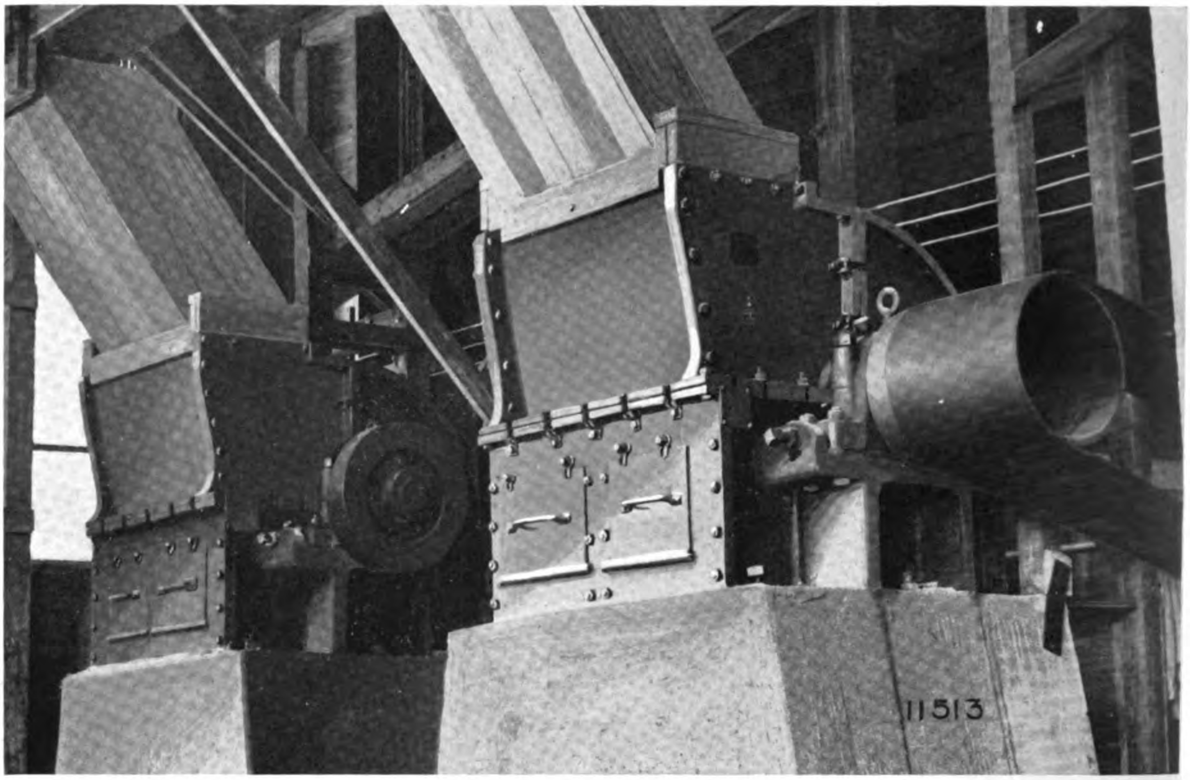
The design of these and other pulverizing plants is the result of many years of experience and study of the requirements in this field by Jeffrey Engineers.

Shredders



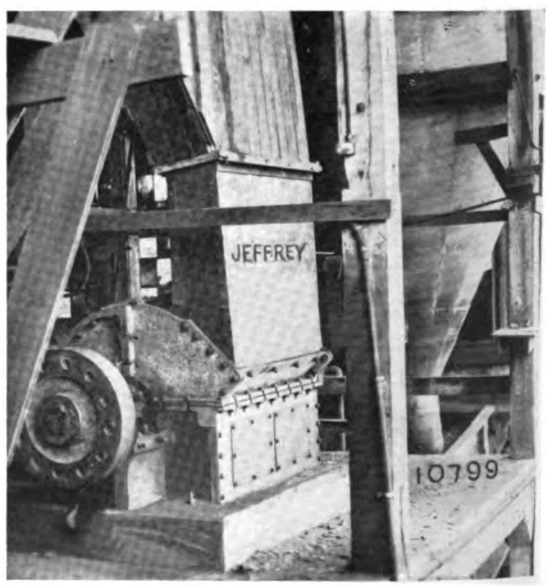
Section 21

Type E Shredder



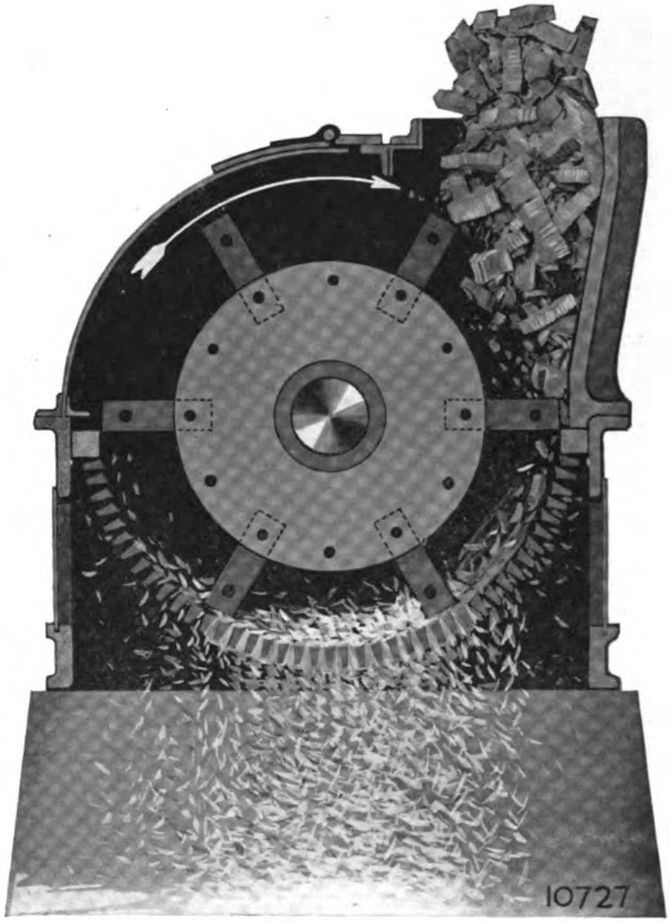
An installation of two large size Jeffrey Type "E" Ball Bearing Shredders used for the final reduction of wood chips in a plant manufacturing wood alcohol. Jeffrey Elevators and Conveyors are also used in this plant in connection with the Shredder.

A Jeffrey Type "E" Shredder reducing chestnut chips. Many of the largest extract plants are equipped with these machines and have found their use exceedingly profitable.



The Shredder shown above has been in successful operation for nearly ten years, shredding hard pine chips made from roots and stumps preparatory to the extraction of turpentine and rosin.

Type E Shredder



Cross-section view of Jeffrey Type "E" Ball Bearing Shredder

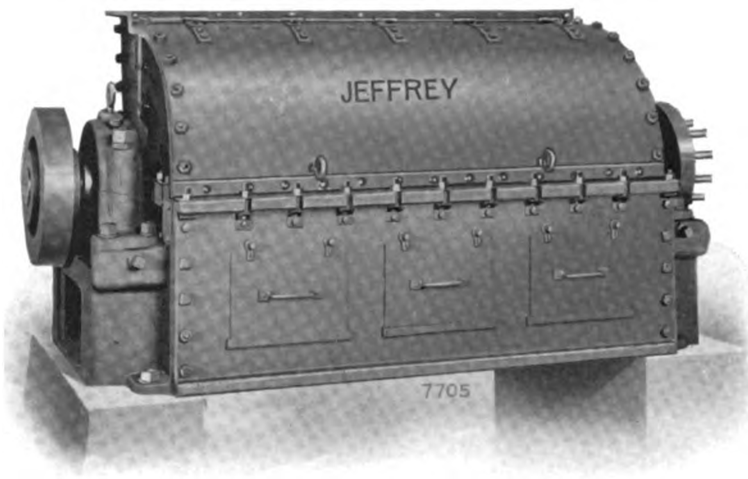
Shredder Designs Keep Pace with Industrial Demands

JEFFREY Swing Hammer Shredders were designed for reducing Chestnut Chips, Logwood Chips, Pine Chips, Tan Bark, Marabolems, Wattle Bark, Divi Divi Beans, Mangrove Bark, Paper, Pulpwood Chips, Algaroba Beans, Sugar Cane and other fibrous materials.

Embodied in this machine are the results of our many years of experience in Shredder design and manufacture, as dictated by careful study of the conditions encountered by Shredders furnished by us to many industries in America and other countries. Combined with this experience in the field, are numerous investigations conducted in our Testing Laboratory, together with many helpful suggestions on the part of our customers, as given by those members of their operating staffs, who have been in daily contact with materials in process as handled by Jeffrey Shredders.

When considering this equipment, note the simplicity of its design, the provisions made for capacity, for durability and accessibility of working parts, and particularly its easy adaptability to the handling of a variety of materials under different conditions of installation and operation. Proper design, accompanied by an effective arrangement of working parts, enables the Type "E" Shredder to cope with many special conditions.

Type E Shredder



A Machine of great strength and large capacity

Numerous Cutting Edges quickly reduce Fibrous Materials

THE Jeffrey Type "E" Shredder consists of a Hammer Drum revolving at a high speed in a housing. Material to be shredded is fed through the opening at the top of the machine. It first comes into contact with the sharp corners of the hammers, is carried down past the heavy cutter bar, and then, to the sharp edged shredder bars, which form the screening surface.

The hammers, acting in conjunction with the cutter and shredder bars, shred the material into small bits. The spaces or openings between the shredder bars can be varied to regulate the size of material produced. The speed of the machine, together with the many corners of the hammers, cutter bar and sharp shredder bars, cuts the material rather than grinds it to dust.

Properly Designed Throat Opening gives Longer Wear and Better Product

WHEN a Swing Hammer Shredder is in operation, the rows of hammers act the same as the blades of a centrifugal fan. The current of air created, combined with the centrifugal force of the hammers rotating at a high rate of speed, tends to force the material being reduced beyond the reach of the hammers. A larger capacity and a more desirable product is obtained from a shredder having a throat or feed opening properly designed to overcome this tendency.

Showing Shredder with hinged cover open

The throat plate of the Jeffrey Type E Shredder is constructed at the proper angle to get the best results, both in capacity and product, with the least wear and least trouble from clogging of the machine (See Fig. 1.) Too flat an angle requires more power to operate and produces more fine dust, due to the accumulation of material through which the hammers must force their way. Too flat an angle also allows light or wet material to build up on the throat plate out of reach of the hammers.

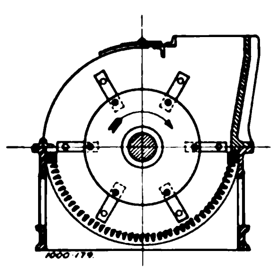


Fig. 1 Correct form of maw gives best capacity and product

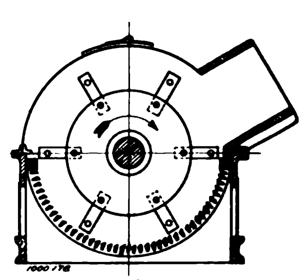
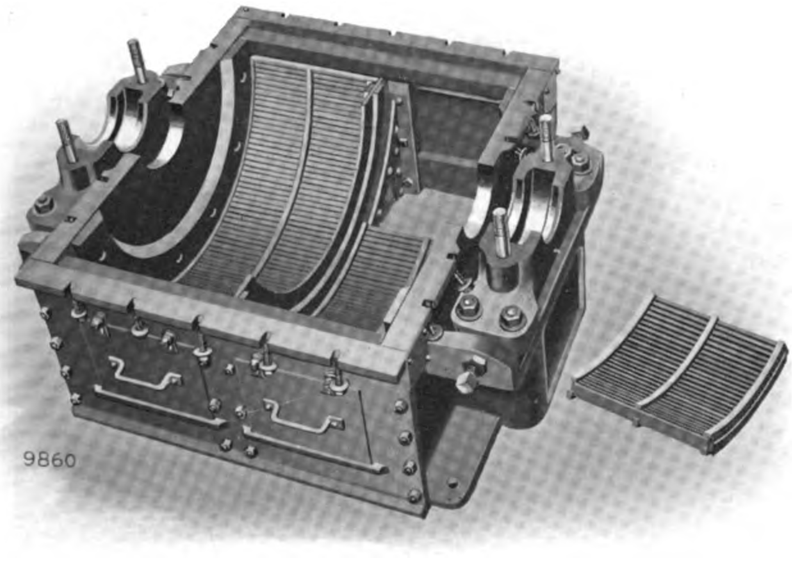


Fig. 2 Feed chute too flat. More power for given Capacity

Type E Shredder



Lower Frame of Shredder showing center division

The Advantage of Having a Center Division

THE main frame of the Type E Shredder is of cast iron. Heavy box shaped castings carry the support for the bearings down to the foundation. All joints are machined. Renewable liners, shown above the ends of the screen bar cage, protect the frame from wear.

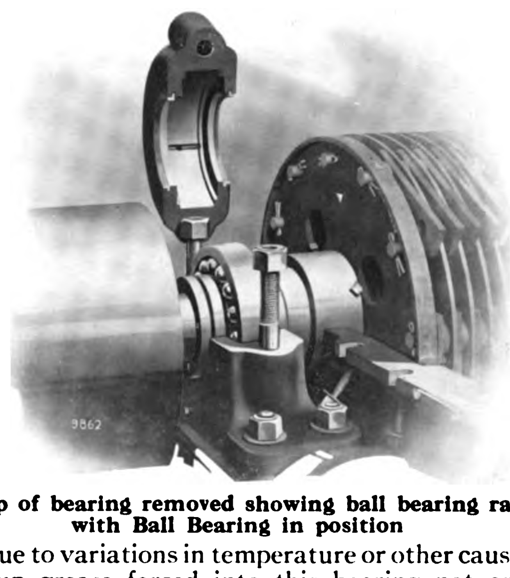
All of the larger machines have a center division. This is built of heavy steel plates, secured to the frame at the center of the machine, and dividing the Shredder bar into two equal lengths. The steel plates project up between the hammers close to the rotor, thus dividing the Shredder into two compartments. This arrangement not only greatly strengthens the screen bars by halving their length, but reduces the risk of accident also, as the trouble is confined to one end of the machine only. By careful feeding, one side of the Shredder may be used in a commercial way without employing the other side. Furthermore, note particularly the convenient size panels of shredder bars, which are easily handled when being inserted into and removed from the machine.

This small size of panel is especially desirable when a shredder is installed in a congested space where large parts cannot be readily handled.

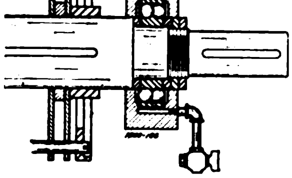
The Best Service insured by high grade radial Ball Bearings

THE extreme weight and high speed of the rotor used in Jeffrey Type E Ball Bearing Shredders make the bearing problem one of the utmost importance. These machines are equipped with the highest grade radial Ball Bearings, which have given much better service for this work than any Babbitt lined or Brass lined Bearings known.

The inner race of this bearing is a light driving fit on the shaft and is clamped tightly by the lock nuts shown. It moves with the shaft under all working conditions. The outer race floats freely in the heavy cast iron housing and slowly turns as the shaft revolves. This race also has considerable freedom of end motion, so as to prevent any undue strain from coming on the shaft or bearings due to variations in temperature or other causes.



Cap of bearing removed showing ball bearing race with Ball Bearing in position



Section showing Ball Bearing

A good grade of cup grease forced into this bearing not only lubricates the bearing but fills the spaces around the shaft and thus effectually keeps out any dirt or dust. A clean-out plug at the lower part of the housing enables the bearing to be washed out in case dirty oil accumulates.

It is not unusual for these bearings to run for years under the most severe operating conditions without a sign of trouble or necessity for replacement because of wear.

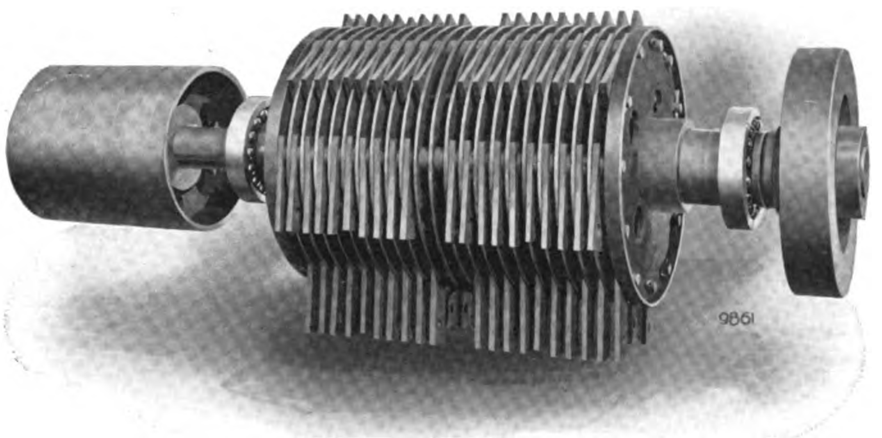
Type E Shredder

All Working Parts Readily Accessible

THE casing of the Jeffrey Type E Shredder is made exceedingly heavy and rigid, and also designed with particular respect to accessibility. Manhole covers are made of sheet steel, so as to be easily handled. They are fastened with buttons which make them quickly removable. The hinged cover gives quick access to the working parts of the machine. It is fastened with swivel bolts to make it as handy as possible.

By raising the hinged cover and removing the caps on the bearings, the whole rotor can be removed from the machine. Raising the curved cover does not in any way interfere with that part of the shredder frame through which the material is fed. Therefore, a steel or wooden chute may be connected to the feed opening of the Type E Shredder without making any provision for disconnecting it to allow the cover to be raised or removed for the inspection or removal of any of the working parts.

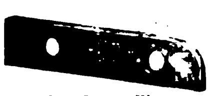
The Advantages of a Perfect Balanced Shredder



Thin, Sharp Hammers spaced wide apart cut like Knives

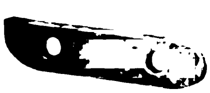
THE shafts on these Shredders are necessarily driven at such a high rate of speed that a very small unbalanced weight will shake the whole machine. Especial care is taken in assembling the Rotor to assure a good running balance, but, however perfect the balance of the bare Rotor may be, it can easily be thrown out by putting in hammers which are out of balance. This is likely to be the case when using old partially worn hammers especially when some new hammers are filled in to make out the set. Old hammers will work well in the machine provided they are balanced by putting hammers of equal weight directly opposite each other. Time will be well spent in the work of arranging the hammers in pairs so as to assure a perfect balance.

The Hammer



One Corner Worn

Two Corners Worn



Three Corners Worn

Four Corners Worn

Resharpened by Grinding

One Corner Worn

Two Corners Worn

Three Corners Worn

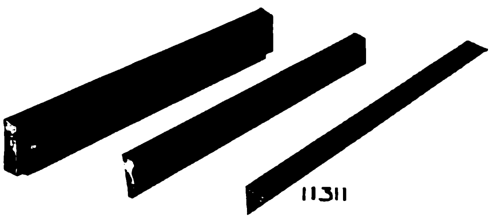
Four Corners Worn

Hammers have Four Cutting Corners

The hammers in the Jeffrey Shredders are made of a fine grade, high carbon steel. This steel is specially heat treated and tempered so as to secure a hard cutting edge on each of the four corners. The hard corners resist wear and enable the hammers to keep their edge. The body of the hammers is left comparatively soft to avoid breakage. The proper temper on these hammers is checked by the scleroscope method. This instrument will indicate the hardness of any metal.

The hammers are double ended and have four sharp corners which can be used one after another until all are worn round. Each corner can then be ground sharp on an emery wheel or grindstone. After sharpening in this manner the hammers will work as well as when new.

Proper Screen Bar Equipment necessary for Best Results



Screen Bars for Various Uses.

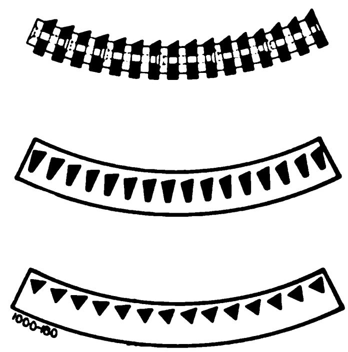
THE Shredder Bars or Knives, which form the screening surface, are made of Triangular, Trapezoidal or Rectangular Steel.

The Triangular Bars have the most clearance and, therefore, can be used to better advantage on material which has a tendency to plug, as wet or doted wood. They are made of File Steel and have three sharp cutting corners, which may be used one after another until all are worn.

Screen Bar Panels Easily Handled

THE Triangular and Trapezoidal Bars are assembled in panels, each panel being handled as a unit in putting them into or taking them out of the machine.

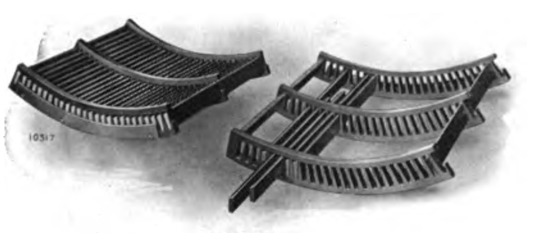
The bars are held at the proper spacing by Machined Steel Racks for the Triangular Bars and Malleable Iron Racks for the Trapezoidal Bars. The racks are formed into panels by shouldered bars riveted into place and rest securely on ledges formed in the side frames of the machine. The whole screening surface is divided into six panels of a convenient size to be handled. For the same machine these panels are all of the same size, though the number of bars in each panel varies inversely with the clear opening between them. Changing the racks does not therefore necessarily involve getting new bars, as the same bars fit into racks for different openings, provided they are for the same type of bar.



Type of Bar and Mesh of opening varied to suit material handled

The flexibility of this system is of great convenience, especially when material to be shredded varies in character or condition from time to time. Doted wood or damp material will go through a coarser screen when it would plug a finer mesh screen successfully used for dry or first class material.

For some classes of work it is advisable to have different meshes of bars in different portions of the screen cage. The bar and rack system is particularly adapted to this condition.



Showing Spacing Racks and Method of assembling Panels

A panel of fine mesh bars may be put directly under the breaker plate, then a coarser mesh panel in the bottom of the cage and a yet coarser spaced panel placed at the rear of the cage system.

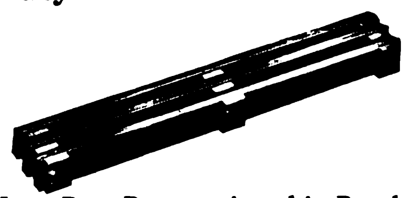
There are other cases in which it is advisable to have a wide opening in the rear of the cage to discharge certain materials which it is not desirable to reduce. Long, stringy rags or tough, fibrous stems would be in this class. This is easily provided for by simply leaving out a few of the bars in the last screen bar panel. The undesirable material is discharged through the wide opening thus produced.

Trapezoidal Bars assembled in Rack Panel

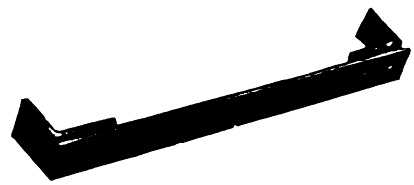
Triangular Bars assembled in Rack Panel

Type E Shredder

Rectangular Bars for Heavy Duty



Heavy Duty Bars are riveted in Panels



Coarse Mesh Bars have angle spacers

WHEN the opening between the bars is wide or the work is very heavy, the shredder bars are made from high carbon Rectangular stock, with cutting edge beveled and hardened the same as with the trapezoidal bars, and which may be ground after using. These bars rest on the ledges at the sides of the frame just as the racks with the standard bars do.

The rectangular bars are usually riveted in panels with blocks between the bars to hold the spacing. A panel usually consists of three or four bars, thus making them of convenient size to handle.

Block patterns are made for all sizes of machines which will give spacings of from one-quarter inch to one inch clear opening between the bars. For openings greater than one inch, special spacing blocks are required. These are usually simple steel angle clips sheared to give proper spacing and riveted on the individual bars as required. Coarse mesh shredder bars are put into the machine one at a time until the screen space is filled.

For special purposes, the screen plate is made of perforated metal bent to shape and fitted with stiffening angles. Plates, however, have their disadvantages in that it is very difficult to punch a plate thicker than the diameter of the holes. Consequently, for the small size of perforations usually required, the plate will be too thin for practical use for some materials.

Where occasion demands, we are prepared to fit perforated metal screens to any of these shredders. They are, however, not to be recommended where a system of bars can be used.

Adaptable to a Variety of Materials

Perforated Plates can be fitted to Shredder

THE materials which the Jeffrey Type E Ball Bearing Shredder can successfully reduce are so varied and the conditions under which these machines work are so different that no exact table of speeds and capacities can be given in a small space. As a general rule, the degree of reduction obtainable for a given material will be in direct proportion to the hammer speed, though it also varies to some extent with the type of shredder bars and the clear opening between them.

The quantity and quality of the output will vary with the nature and condition of the material, the speed of the hammers and the clear openings between the shredder bars. The power is also affected by the character of the material, the degree of reduction and the speed of the hammers, though it is not in direct proportion to any of these.

The Speeds, Capacities and Power Ratings given in the following tables are approximate only. They are average cases which have been obtained from many installations. A sample of material is required for a direct guarantee.

The sizes of Jeffrey Shredders are indicated by the dimensions of the hammer drum. The diameter is given first followed by the face. The two most popular sizes are listed on opposite page. The quantities given are approximate only. Capacities and power will vary with the bar openings.

Type E Shredder

Sizes and Capacities of Jeffrey Type E Ball Bearing Shredders
For Chestnut, Logwood and Pine Chips and Similar Materials

Size Shredder Inches	Shipping Weight Lbs.	Pulley		Speed R. P. M.	Approx. Horse Power	Capacity Tons per Hour ¼" Bar Opening
		Diam.	Face			
42 x 36	10500	20"	23"	1000 to 1100	80 to 90	10 to 12 Tons
42 x 54	15000	20"	25½"	1000 to 1100	120 to 130	16 to 18 Tons

One cord of Chestnut chips and similar material is considered 3500 lbs.
One cord of Logwood or Pine Chips is considered 4000 lbs.

Belt Driven

As a general thing the Shredders are driven by belts from line shafts or motors. Owing to the fine dust always incident to the operation of these machines, belts do not work at their highest efficiency. This necessitates using belts larger than would otherwise be employed to transmit the same power. The shredder shaft is strong and stiff enough to permit the use of a heavy drive belt without an outboard bearing. Two bearings only on a shaft of this kind will always be in line and hence run without binding or heating. Three bearings are difficult to keep in exact alignment and are bound to cause trouble on a shaft too stiff to spring. Belt drives should be as nearly horizontal as practicable with the pull on the lower strand of the belt.

Direct Connected

Where electric current is available as a source of power and a motor of proper speed can be secured for driving the shredder, a very satisfactory drive can be had by coupling the motor directly to the end of the shredder shaft. In this case a flexible coupling is furnished with the Shredder, being substituted for the pully usually supplied with the machines intended to be driven by belts. Such an arrangement makes a particularly desirable drive, eliminating possible belt trouble, relieving the shredder bearings of the strain incident to a heavy belt drive and saving considerable space.

The type of coupling used consists of two heavy flanged hubs keyed to the shredder and motor shafts and with intermeshing projecting pins through which a heavy leather belt is woven A steam turbine may be used instead of an electric motor if desired.

This outline gives approximate dimensions only. For detail setting plan, ask for certified print.

When ordering Pulverizer, be sure to state on which side driving pulley is wanted. Pulverizers will be shipped assembled as shown unless otherwise ordered.

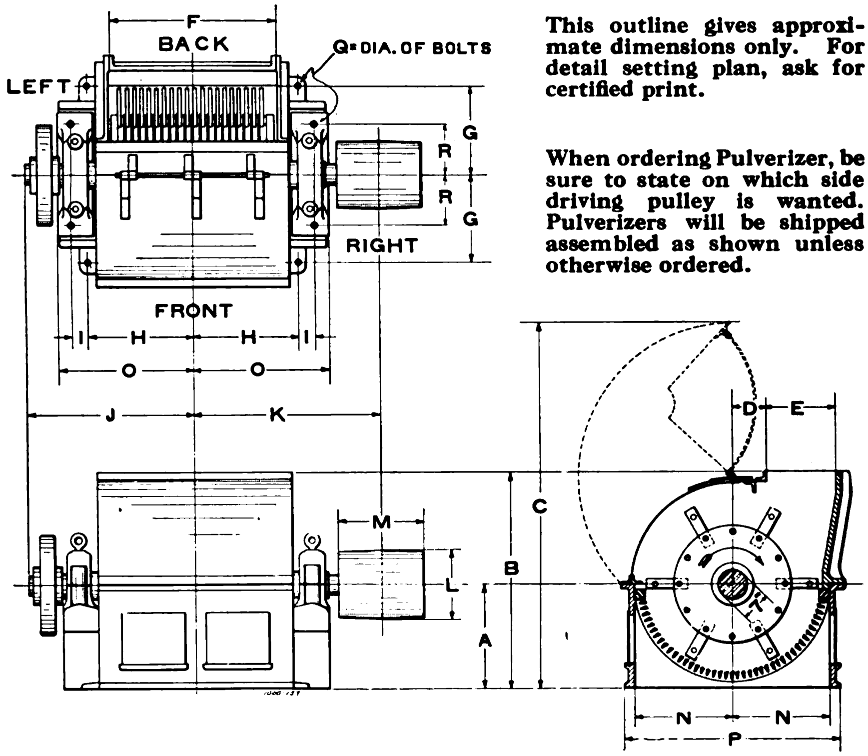


Diagram showing dimensions of Jeffrey Type E Shredder

General Dimensions in Inches

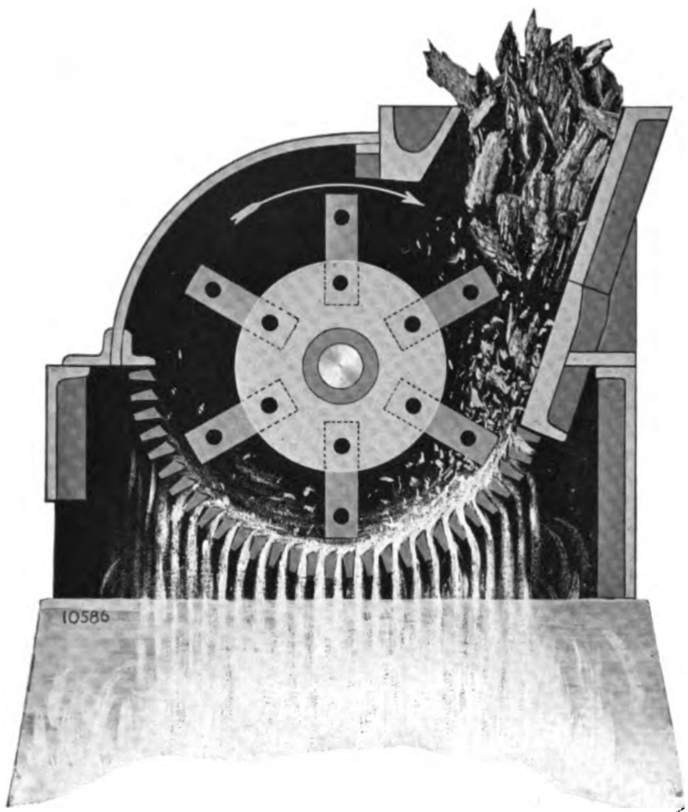
Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Pulley Bore
42" x 36"	25	52	89	8	17	40	20¾	25	4	40	46	20	23	23¾	32	51½	1¼	*0	4 13/16
42" x 54"	25	52	89	8	17	56	20¾	33	4½	50½	58	20	25½	23¾	43½	51½	1¼	12	6

For Information on Auxiliary Conveyors for use in connection with Jeffrey Shredders, see pages 114 and 115.

* One bolt on center line directly under shaft.

Type A Shredder

Insures High Percentage of Extraction

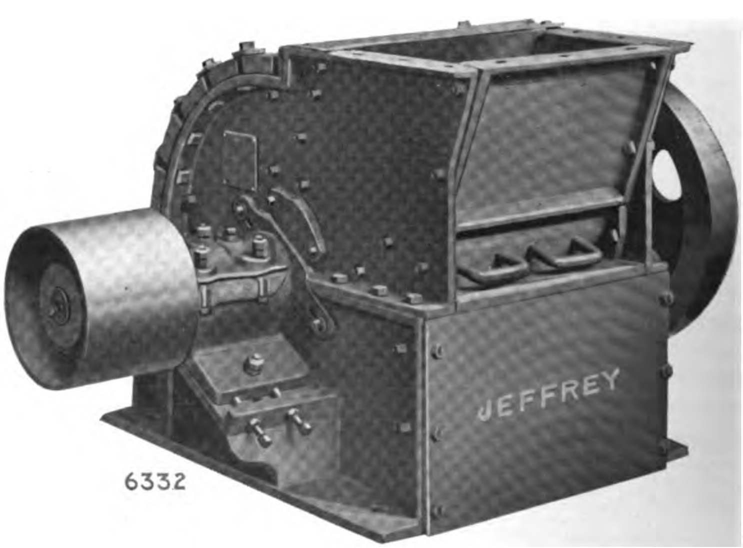


Cross-section of Type A Shredder

TO industries of moderate size having fibrous materials to reduce, and of which the requirements of modern business are now demanding more up-to-date methods, we offer our Type A Swing Hammer Shredder as a satisfactory machine for the proper shredding of the many fibrous materials requiring a uniform reduction. The use of this machine will produce a more uniform and better shredded product. There will be less coarse material which will not respond to the process to which the shredded material is subjected and less fine dust which is usually a loss. The fine dust is particularly objectionable when shredding bark to chips for extracting purposes, as it prevents the free circulation of the liquor through the leaches. By simply changing the speed of the machine or some other minor part of the equipment, a very marked difference may be made in the character of the shredded product. The machine is thus adjustable. The shredded product may be changed to correspond with the experience obtained in handling it. This gives the plant manager an advantage not to be obtained with other types of Shredding Machines.

The casing of the Type A Shredder is of cast iron. It is well fitted and bolted together and forms a heavy, rigid framework for the machine. Brackets under the bearings lead directly down to the foundation. This eliminates many bearing troubles. The inside of the grinding chamber is protected from wear by heavy hard iron liners.

A light, removable cover gives quick and easy access to the active parts of the machine. The feed opening is at the top near one side of the machine. A large dam or breaker plate extends across the back of the feed opening and prevents such material as may be carried around the shredder from being thrown out of the top.



A Heavy Frame gives Rigidity to working parts

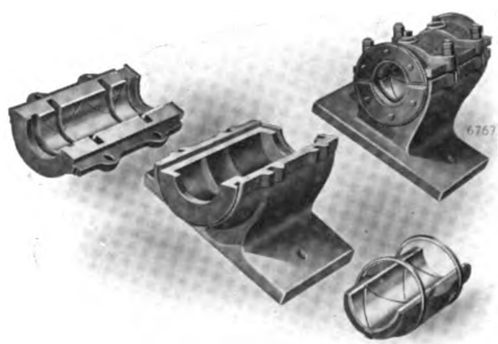
Type A Shredder

Thorough Shredding of Material assured

Heavy Shaft with enlarged Centers insures a quiet running Machine

THE shafts used in these machines are made of high carbon hammered steel. Being enlarged at the center, these shafts are very strong and stiff and will not spring under working conditions.

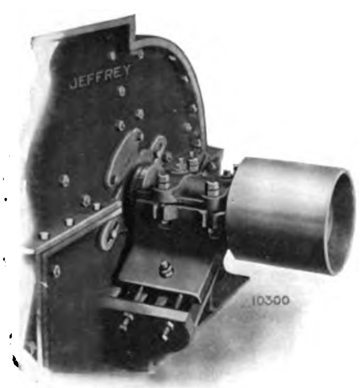
The central part of the hammer drum is formed of plate steel discs with spacing rings between them. Cast steel discs are made with flanges to protect ends of hammer rods from ends of drum. Each disc is balanced separately before the drum is assembled. The balancing is done by drilling out the heavy side. Thus a perfect running balance is assured and the machine will run quietly at any reasonable speed. A thorough running test is given in the shop.



Self Aligning Ring Oiling Bearings used on Jeffrey Swing Hammer Shredders

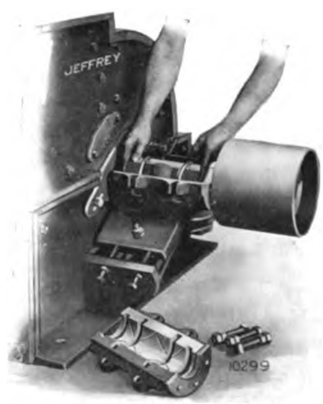
Smaller sizes of these machines carry the shaft in two bearings only. An outboard bearing is used on the larger sizes. Bearings are supported on heavy brackets at sides of the frame. The hammers may be adjusted close to screen, thus insuring thorough shredding of material.

The bearings are of the three piece, self-aligning, ring oiling type, lined with genuine Babbitt metal. The inner shell may be taken out and re-babbitted without disturbing shaft or base of bearing. Felt washers protect bearings from dust. Solid brass rings distribute oil through proper grooves to flood the whole bearing.



At the left is shown how Bearings are supported by brackets reaching to foundation.

The Babbitted inner shells can be removed with shaft in place, as illustrated at right.



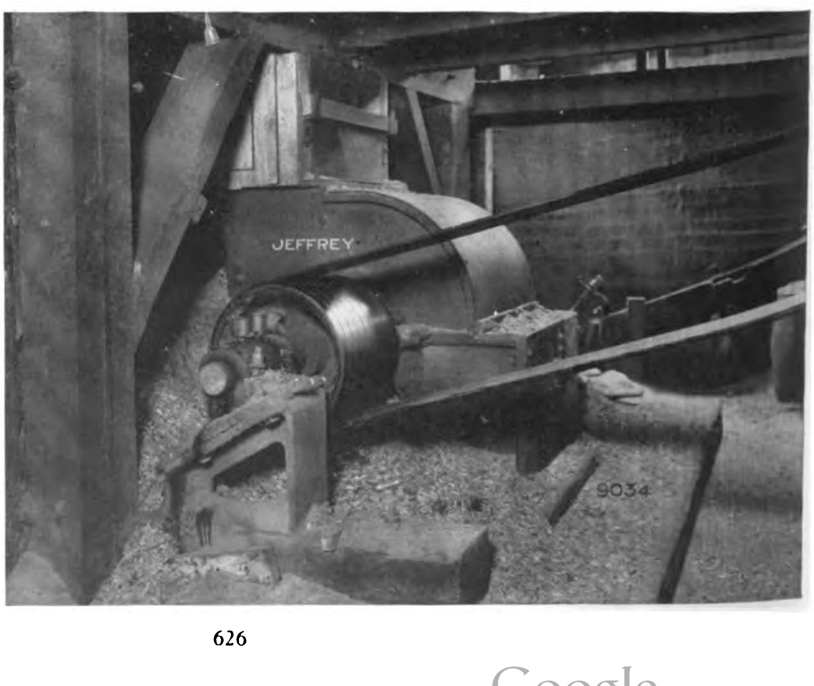
Type A Shredder

In the illustration at the left, one of the smaller sizes of Jeffrey Type A Swing Hammer Shredders is shown preparing tanbark in a tannery. This machine grinds the bark as fast as the two men can throw it in. It makes a uniform product with a minimum of oversize and very little dust. The Tannery is thus supplied with an ideal preparation for treating leather by a machine easy to operate and requiring very little attention.

No preliminary work is done on the tanbark. One man gathers up an armful of bark, carries it to the machine and drops it into the feed opening; then he returns to the pile for another load.

In the meanwhile the other man has his armful ready and feeds it into the machine. By thus feeding alternately the shredder keeps the two men busy.

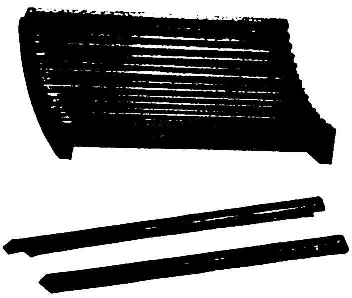
The regularity of the feed enables the shredder to turn out a good day's work. The shredded bark is taken away from below the machine by a power driven conveyor.



At the right is shown another installation of Jeffrey Type A Shredder reducing Chestnut wood chips. The chips are fed to this machine from the floor above through an almost vertical chute.

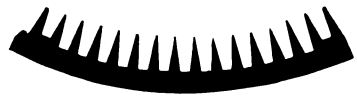
Jeffrey Shredders are giving excellent service in many Tanneries, Extract and Dye Plants, Pulp and Paper Mills and many other industries throughout the country.

Changing Racks Does Not Necessitate Change of Bars

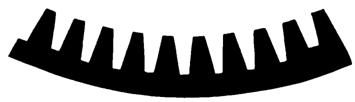


Suitable Rack Castings hold Shredder Bars in proper mesh

FOR the great majority of work we equip the Type A Shredders with high carbon steel shredder bars. These are made thinner at the outer edge than at the inner edge in order to allow the material to pass between them more freely. They are finished with a sharp cutting edge which is subject to a special heat treatment and given a proper temper. Great care is taken to make them just right. If too hard they break; if too soft they soon lose their cutting edge. After they are worn dull these bars may be taken out of the machine and ground again to a sharp edge.



Fine Mesh Rack



Coarse Mesh Rack

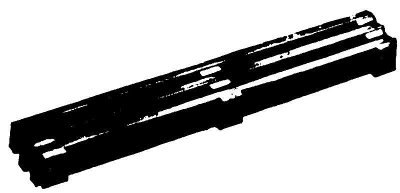
These bars are held at the proper spacing by saw toothed Malleable Iron Racks. The racks rest securely on ledges formed in the side frames of the machine. They divide the whole screening surface into three or four panels of a convenient size to be handled as a unit when assembled with the proper number of bars. For the same machine these panels are all of the same size though the number of bars in each panel varies inversely with the clear opening between them. Changing the racks does not therefore necessarily involve getting new bars as the same bars fit into any of the racks.

The flexibility of this system is of great convenience, especially when material to be shredded varies in character or condition from time to time. Doted wood or damp material will go through a coarser screen when it would plug the finer mesh bar successfully used for dry or first class material.

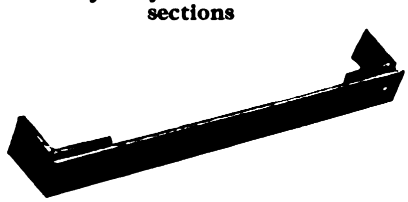
For some classes of work it is advisable to have different meshes of bars in different portions of the screen cage. The bar and rack system is particularly adapted to this condition.

A panel of fine mesh bars may be put directly under the breaker plate, then a coarser mesh panel in the bottom of the cage and yet a coarser spaced panel placed at the rear of the cage system.

There are other cases in which it is advisable to have a wide opening in the rear of the cage to discharge certain materials which it is not desirable to reduce. Long, stringy rags or tough, fibrous stems would be in this class. This is easily provided for by simply leaving out a few of the bars in the last screen bar panel. The undesirable material is discharged through the wide opening thus produced.



Heavy Duty Bars are riveted in sections



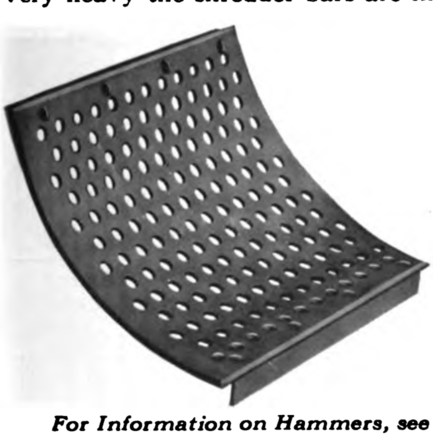
Coarse Mesh Bars have angle spacers

Rectangular Bars for Heavy Duty

When the opening between the bars is wide or the work is very heavy the shredder bars are made from Rectangular stock with cutting edge beveled and hardened the same as with the trapezoidal bars. These bars rest directly on the ledges at the sides of the frame just as the racks with the standard bars do.

The rectangular bars are usually riveted into panels with blocks between the bars to hold the spacing. A panel usually consists of three or four bars, thus making them of convenient size to handle.

Block patterns are made for all sizes of machines which



For Information on Hammers, see page 620.

Type A Shredder

will give spacings of from one quarter inch to one inch clear opening between the bars. For openings greater than one inch special spacing blocks are required. These are usually simple steel angle clips sheared to give proper spacing and riveted on the individual bars as required. Coarse shredder bars are put into the machine one at a time until the screen space is filled.

For special purposes the screen plate is made of perforated metal bent to shape and fitted with stiffening angles. Plates, however, have their disadvantages in that it is very difficult to punch a plate thicker than the diameter of the holes. Consequently, for the small size of perforations usually required, the plate will be too thin for practical use for some materials.

Where occasion demands we are prepared to fit perforated metal screens to any of these shredders. They are, however, not to be recommended where a system of bars can be used.

Tables Give Average Results Which Have Been Attained

THE speed, the power and the output of these Shredders will vary with the kind of material to be shredded; its condition—whether wet or dry, green or seasoned, etc.; also with the degree of the reduction to be obtained and the equipment necessary to give desired results.

An increase of speed does not necessarily mean an increase of power, as these machines act more on the principle of a brush. A high speed usually cuts through the material easier and more uniformly than a lower one. Speed does to a great extent control the degree of the reduction to be obtained. The higher the speed the greater the reduction and vice versa. Plenty of speed and plenty of power to keep it up are prime elements of success with these machines.

The following tables are approximate only. They give average results which have been attained. In any specific case the speed, the power and the output will vary within certain limits.

Approximate Speed, Power and Capacity Lists for Jeffrey Type A Shredders

Chestnut, Logwood, Pine Chips, Etc.

Size Shredder	Weight of Shredder	Speed R. P. M.	Horse Power	Capacity Tons per Hour ¼" Bar Opening
24 x 12	2100	1400 to 1600	20	¾ to 1 ton
24 x 18	2500	1400 to 1600	30	1 to 2 tons
30 x 24	4200	1200 to 1400	40	3 to 4 tons
36 x 24	6000	1100 to 1300	60	5 to 6 tons
36 x 30	7300	1100 to 1300	75	7 to 8 tons
42 x 24	8000	1000 to 1150	75	7 to 8 tons
42 x 36	9000	1000 to 1150	90	8 to 10 tons
42 x 48	16000	1000 to 1150	125	14 to 16 tons

For Standard Pulley Sizes and General Dimensions see opposite page.

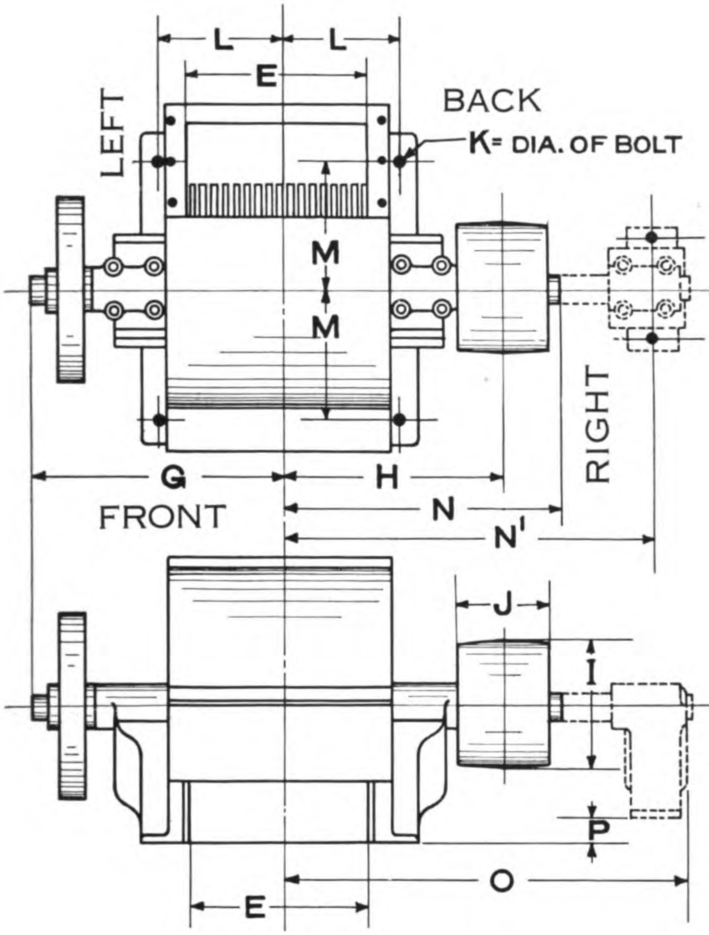
NOTE—Add 50% to above capacities for Shredders equipped with larger mesh bars suitable for the reduction of chips used in pulp and paper mills.

Tan Bark and Similar Materials

Size Shredder	Weight of Shredder	Speed R. P. M.	Horse Power	Capacity Tons per Hour ⅜" Bar Openings
24 x 12	2100	1200 to 1500	20	1 to 2 tons
24 x 18	2500	1200 to 1500	25	2 to 2½ tons
30 x 24	4200	1000 to 1200	35	3 to 4 tons
36 x 24	6000	900 to 1100	50	4½ to 5 tons

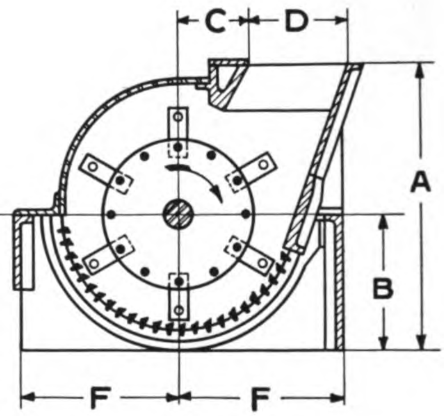
1 cord Tan Bark is considered 2000 lbs.
1 cord Chestnut Chips is considered 3500 lbs.
1 cord Pine, Logwood, etc., Chips is considered 4000 lbs.

Type A Shredder



When ordering Shredder, be sure to state on which side driving pulley is wanted. Shredder will be shipped assembled as shown unless otherwise ordered.

This outline gives approximate dimensions only. For detail setting plan, ask for certified print.



General Dimensions in Inches of Type "A" Shredders

Size	A	B	C	D	E	F	G	H	I
24 x 12	33¼	15½	8½	11¼	13¼	19½	28	25	10
24 x 18	33¼	15½	8½	11¼	17½	19½	30	27	12
30 x 24	40	18¾	10¾	13½	22½	24¼	37	32	16
36 x 24	50	24	13	16¼	22	27½	39	34	18
36 x 30	50	24	13	16¼	29¼	27½	44½	38½	22
42 x 24	55½	26½	15	18¼	24	31½	41¼	39	24
42 x 36	55½	26½	15	18¼	35	31½	47½	43½	24
42 x 48	55½	26½	15	18¼	47	31½	52¾	50½	24

Size	J	K	L	M	N	N1	O	P
24 x 12	9¼	1	10½	15	29¾	....	....	....
24 x 18	9¼	1	12½	15	31¾	....	....	....
30 x 24	11½	1	15¾	20¼	37¾	....	....	....
36 x 24	15½	1	15¾	22	41¾	....	....	....
36 x 30	16½	1	19¼	22	46¾	55¾	61¾	2½
42 x 24	18	1⅛	16½	25	48	....	....	....
42 x 36	22	1⅛	23	25	54½	65	71	5¼
42 x 48	26	1⅛	28	25	63½	73	79	5¼

Industrial Locomotives

Section 22

Industrial Locomotives

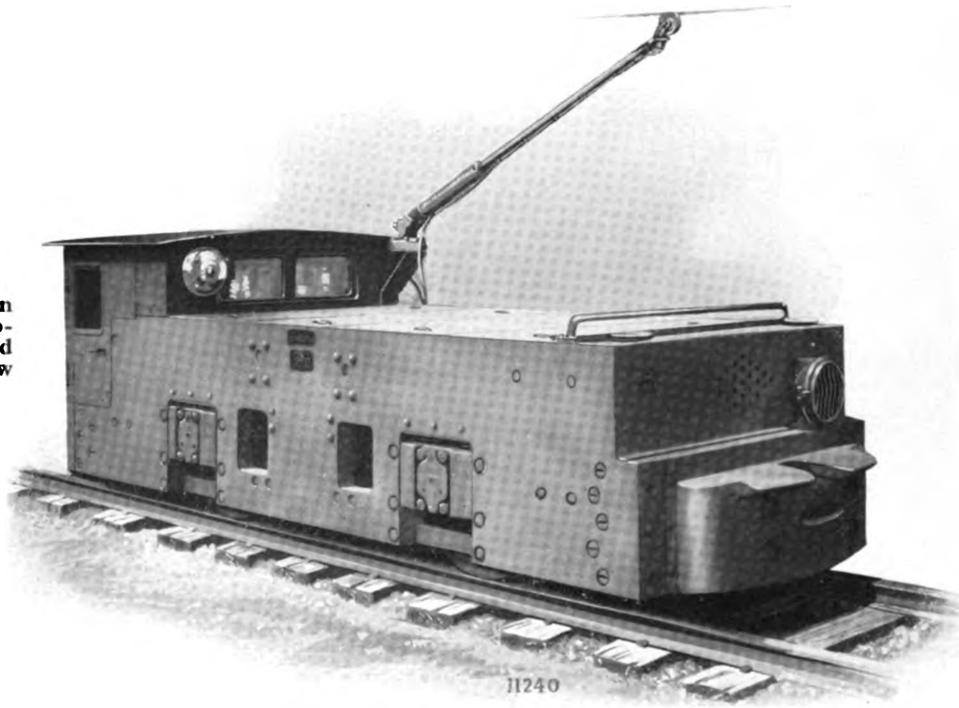
Jeffrey 20 Ton Industrial Locomotive, equipped with Cab.

Jeffrey Industrial Locomotives meet many haulage requirements

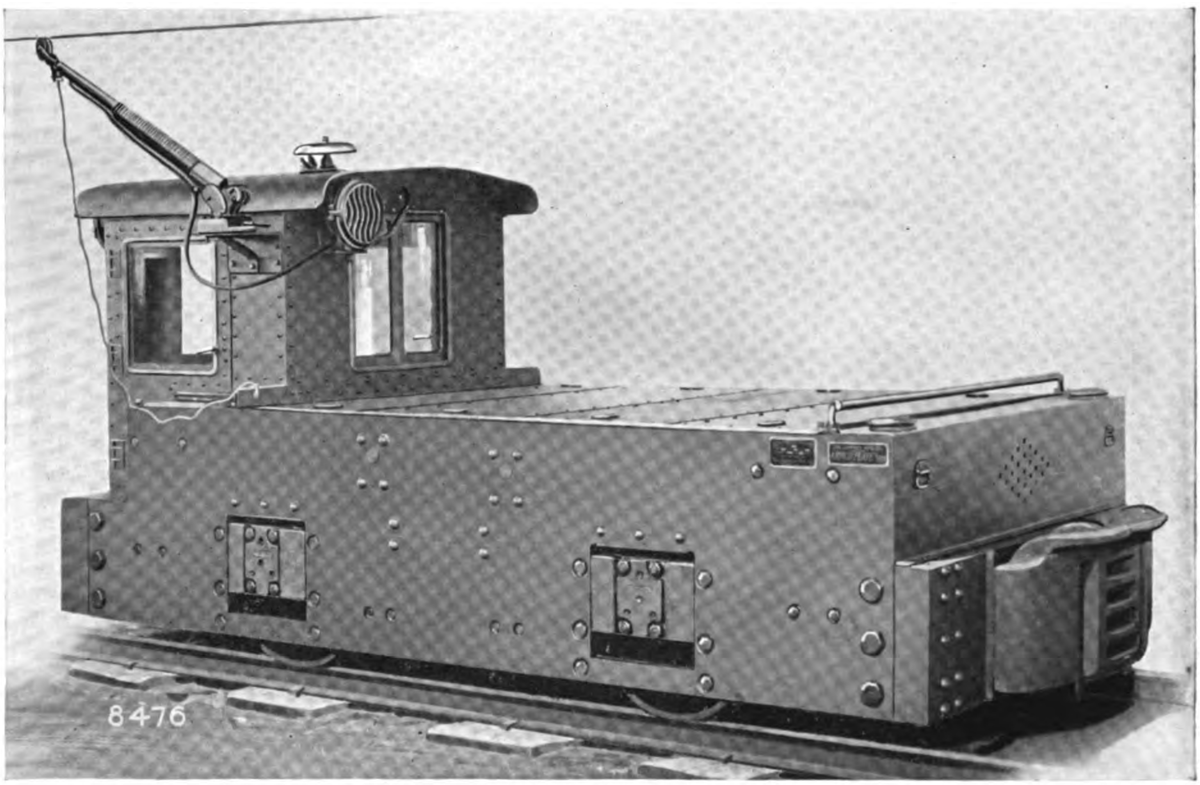
JEFFREY Industrial Locomotives are built in numerous types and sizes to meet the haulage requirements of such industries as brick yards, lumber camps, clay and stone quarries, steel mills, creosoting plants, etc. Also locomotives for handling quenching cars at coke plants, yard locomotives for manufacturing plants, of either trolley, third-rail or storage battery types.

While these locomotives are designed especially to suit the conditions, they are made up of standard parts such as motors, controllers, brake rigging, sanding mechanism, journal boxes, wheels and axles, in fact all parts except the frame work are standard, therefore thoroughly developed, tested out and carried in stock for repairs.

For Detailed Information on Jeffrey Electric Locomotives, see pages 664 to 683.

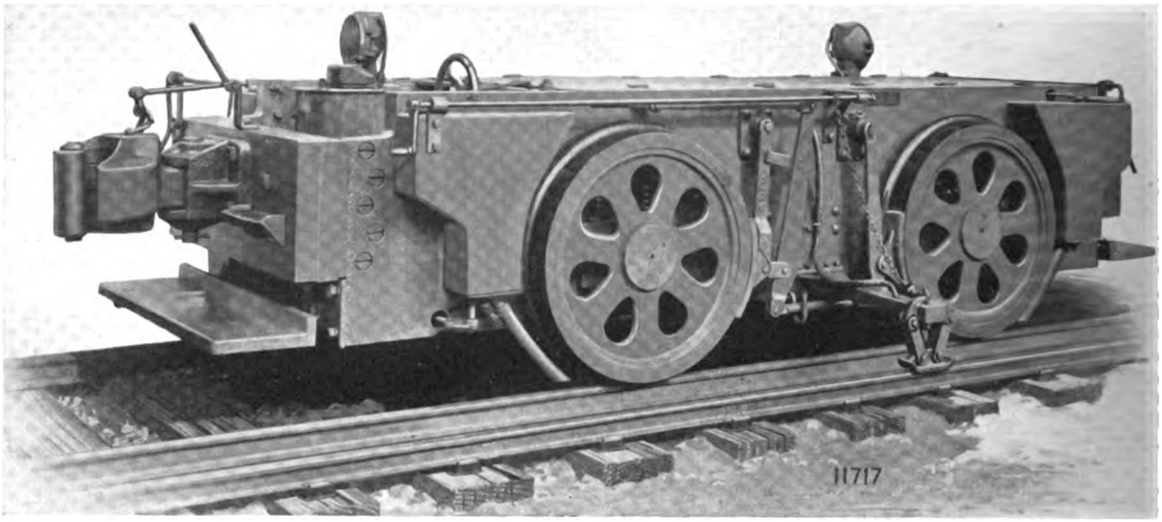


Jeffrey 15 Ton Armorplate Locomotive equipped with special low steel Cab.

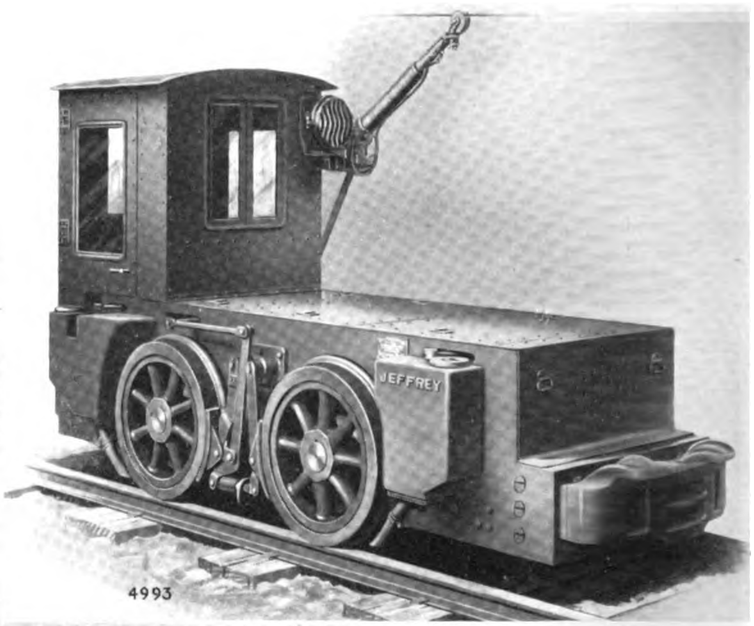


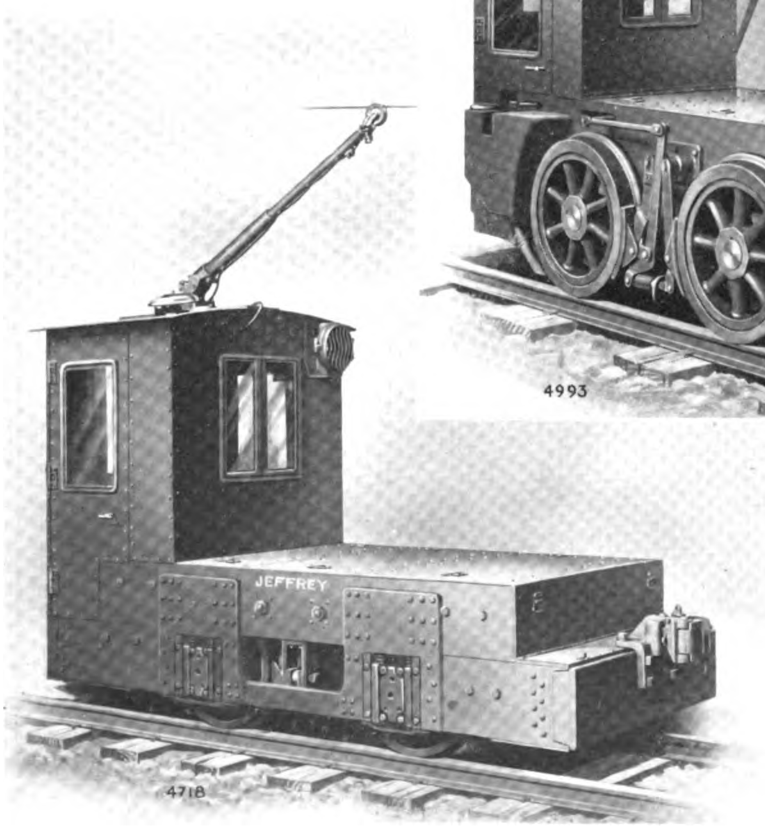
Jeffrey Standard 15 Ton Armorplate Locomotive, equipped with steel Cab.

Industrial Locomotives



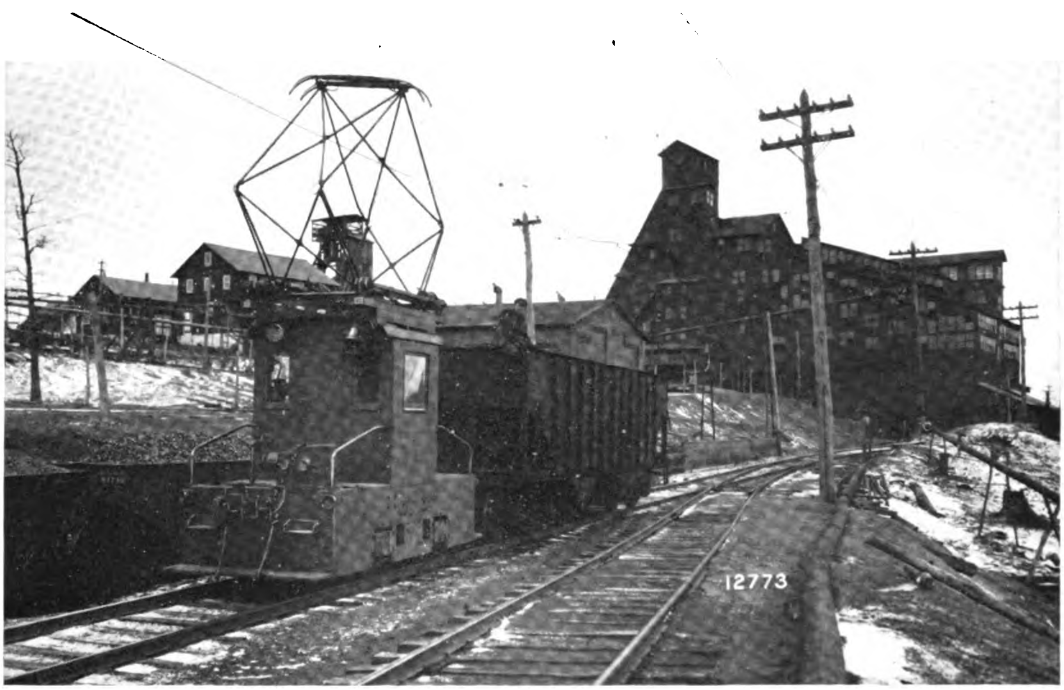
Above is shown a Jeffrey 15-ton Electric Locomotive, equipped with third rail shoe.





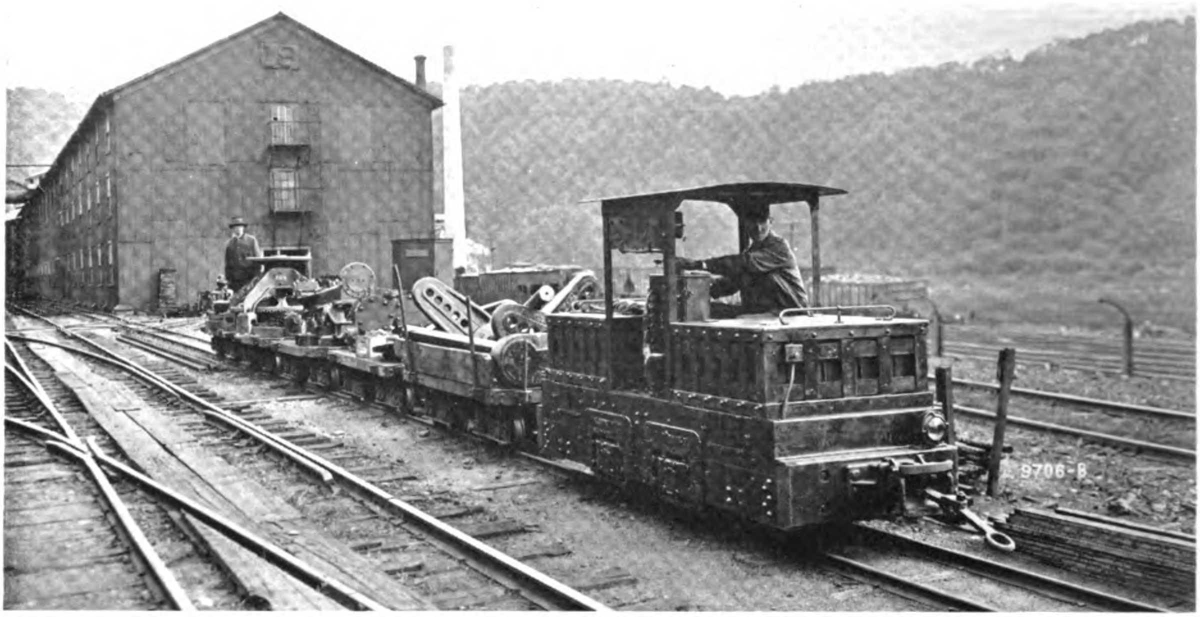
The view above shows an 8-ton Electric Haulage Locomotive with single end control and cab, while the opposite is that of a 4-ton Haulage Locomotive built for track gauges of 24″ and up.

Jeffrey 6-ton Electric Trolley Locomotive, with canopy, in quarry service

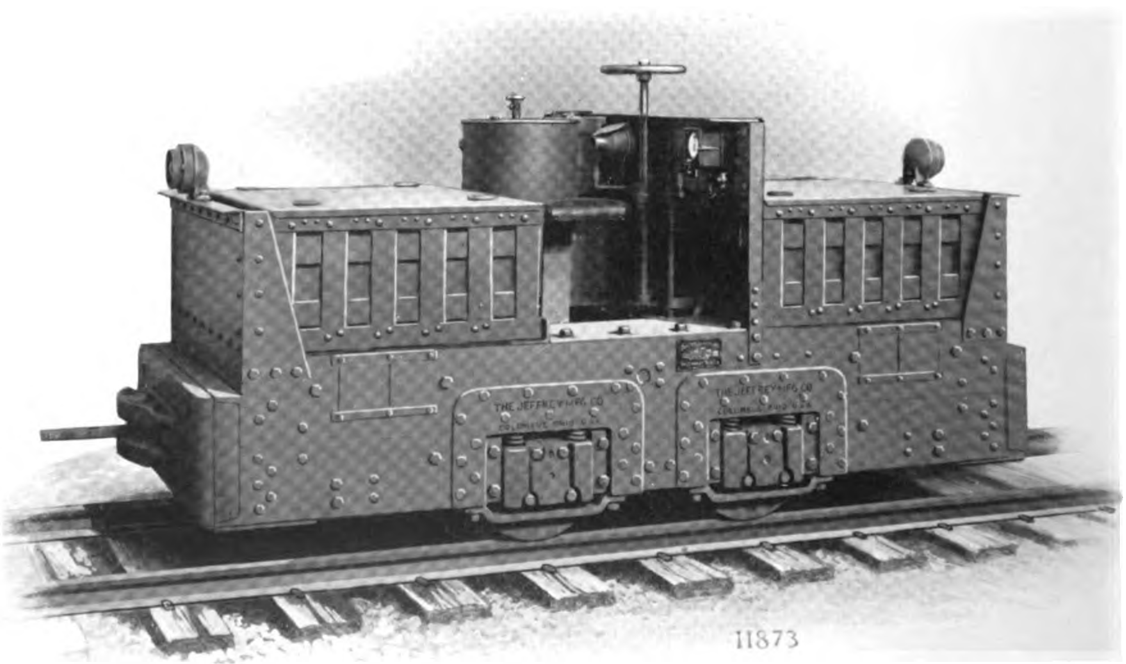


Jeffrey 20-ton Cab Locomotive used for handling railroad cars at a large anthracite coal mine

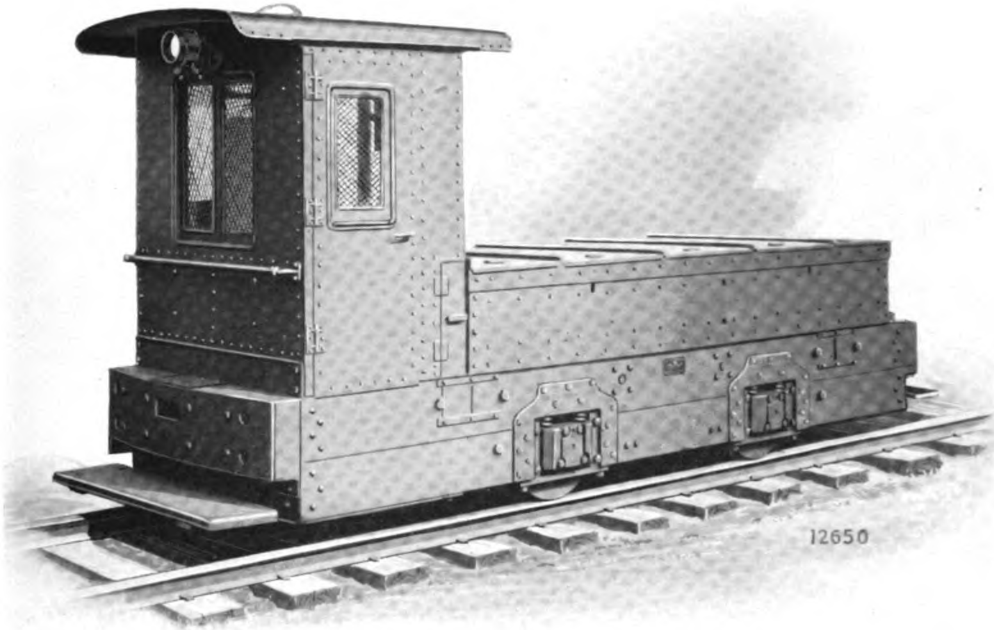
Industrial Locomotives



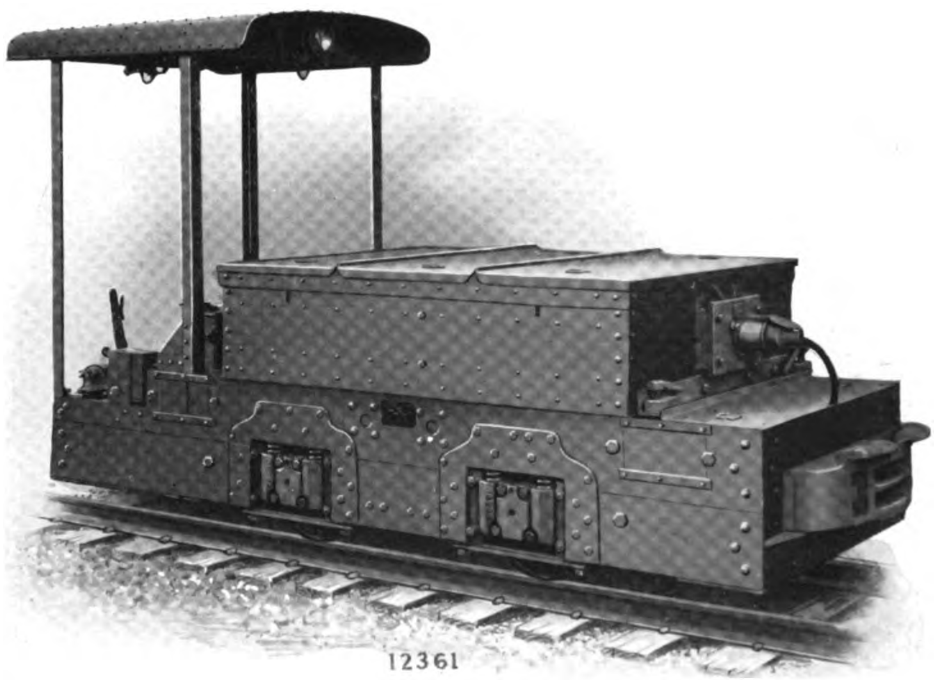
Jeffrey 6000-lb. Chassis Battery Locomotive with canopy, handling a trip of cars in factory yard. The Storage Battery Locomotive is particularly fitted for this service, in that it may enter buildings with absolute safety, as no overhead wires are needed, and gives off no smoke or fumes.



The same locomotive as above without canopy. Battery capacity 28.8 Kilowatt Hours. This design has 30" wheelbase and short overhang. Can be built to operate on 18" gauge track and 12 ft. radius curve.

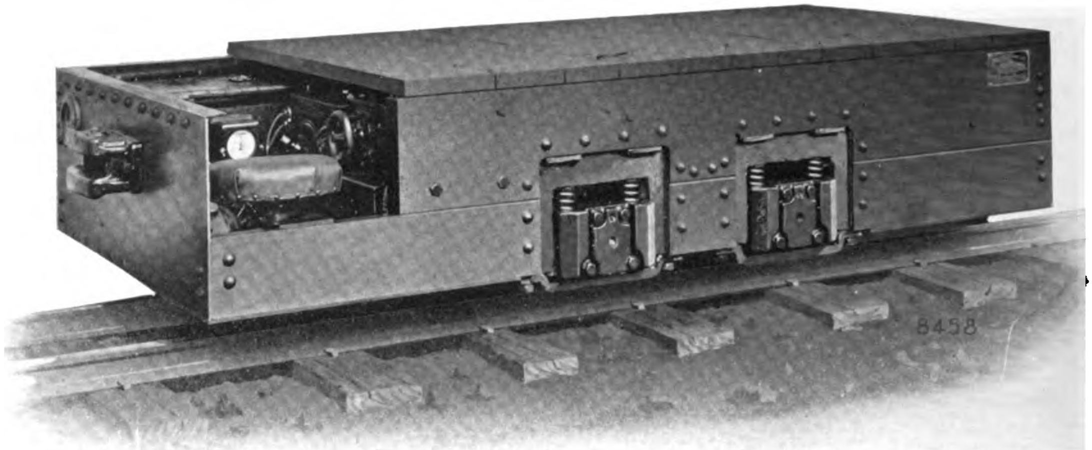


Jeffrey 10,000 lb. Chassis Battery Locomotive equipped with 56 Kilowatt Hour Battery. Cab and battery box are lined with asbestos board and the windows have wire glass to withstand the heat from the open hearth furnaces, such as encountered in steel mill service.

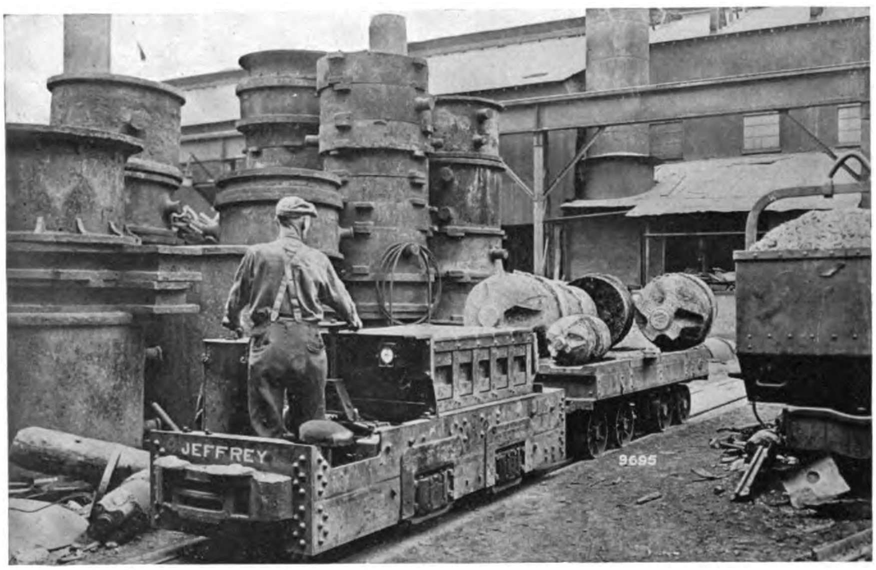


A 6000 lb. Chassis Industrial Storage Battery Locomotive with steel canopy on end, designed for service in hot climates. This locomotive can be equipped with a battery capacity from 14 to 36 Kilowatt Hours.

Industrial Locomotives

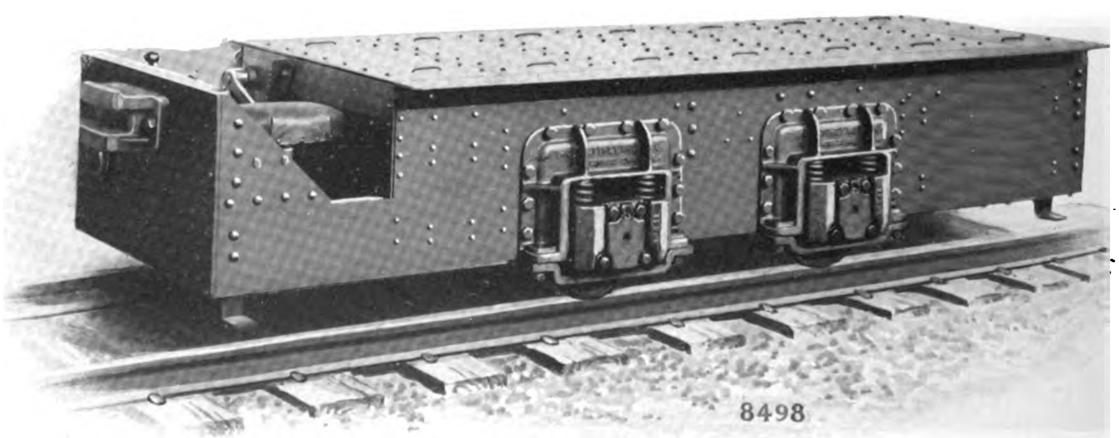


Jeffrey 5-ton capacity Industrial Storage Battery truck equipped with 11 Kilowatt Hour Battery.



Above is shown a Jeffrey Storage Battery Locomotive handling castings in an Industrial Plant.

The danger of fire risks with the Storage Battery Locomotive is less than with any other form of locomotive haulage. This, coupled with the flexibility of the storage battery haulage system—its ready adaptability to practically every need and its great efficiency and economic possibilities are features that give it a prominent place in the industrial world today.



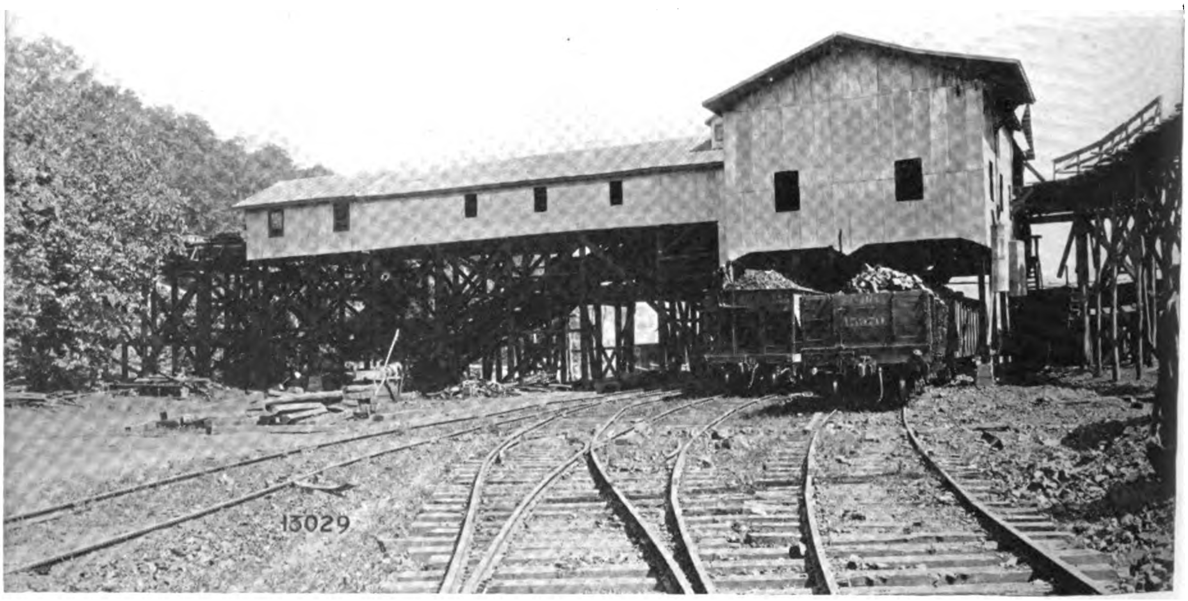
Above is shown a 5-ton Capacity Storage Battery Truck, all steel construction for use in and about foundries.

Tipple Equipments

Section 23

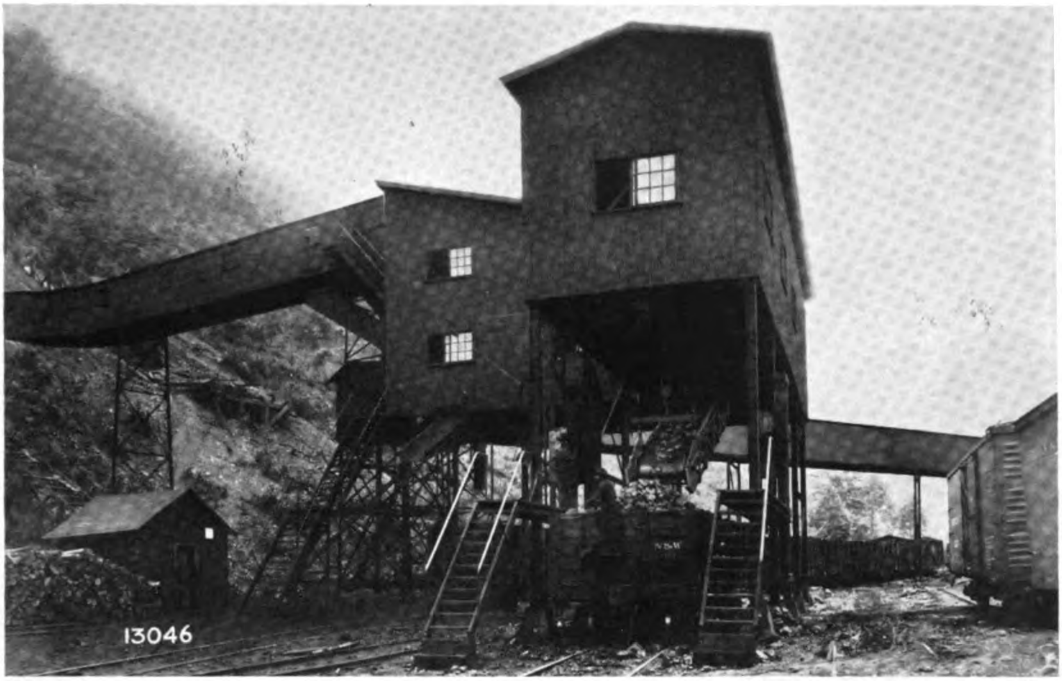
Tipple Equipment

An All-steel Tipple for Shaft Mine, equipped with Dumping, Weighing, Picking, Grading and Loading Machinery.



A standard three track Tipple of wood construction, with approaches suitable for slope or drift mines, having retarding horns for mine cars, Quick Reading Dial Scale, Feeder, Conveyor, Screens and Booms.

Tipple Equipment



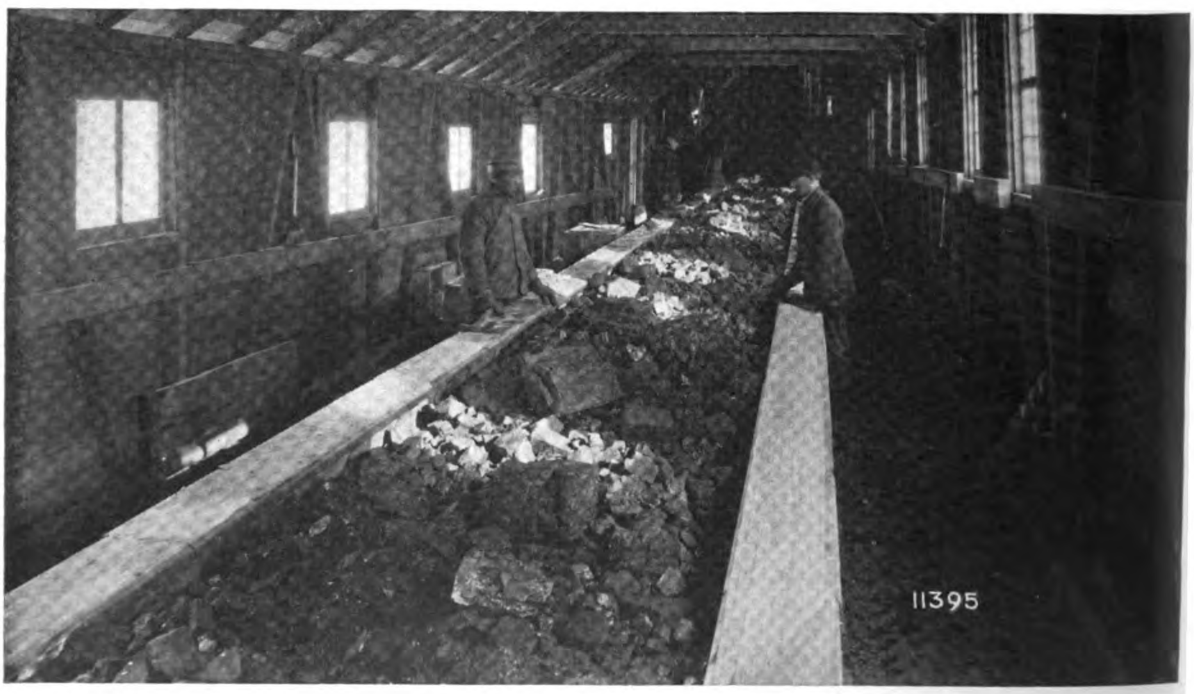
Jeffrey Steel Tipple with Conveyor bringing coal off the mountain. Note that at the right in the illustration, a Conveyor is delivering coal from Tipple to Boiler House stokers. Another Jeffrey Tipple designed to suit local conditions.

Jeffrey Tipples are designed to meet local conditions and requirements, and are equipped with standard units, as shown on following pages, which have proven themselves by past performance.

Tipple Equipment

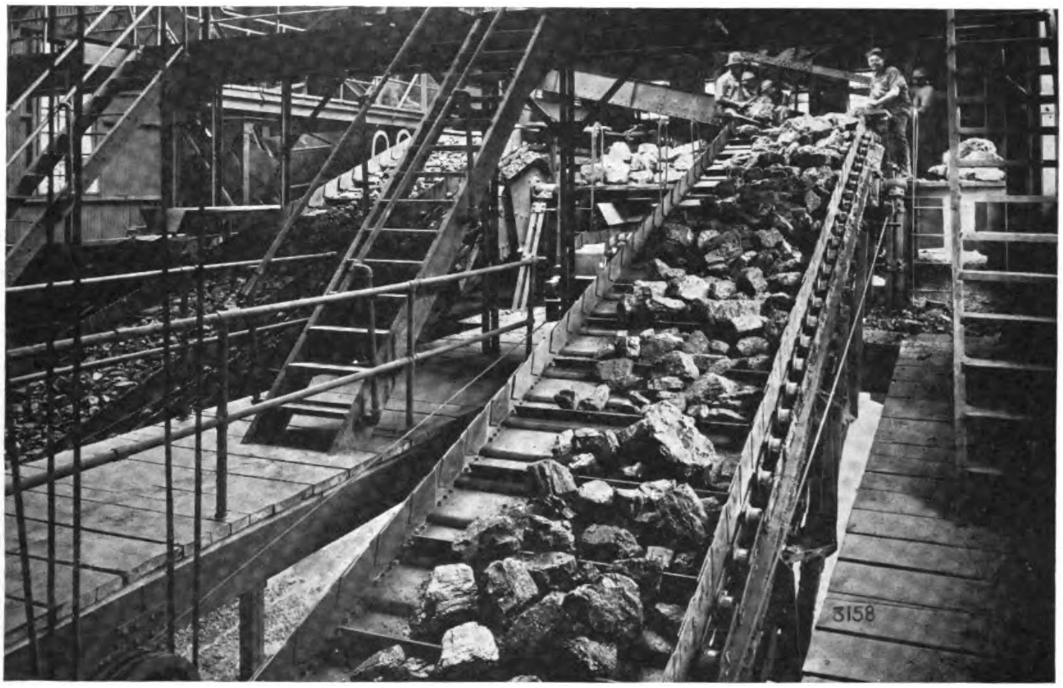
Picking Tables

Two Jeffrey Apron Type Picking Tables in service in a large Tipple



A Jeffrey Combination Conveyor and Picking Table, guarded to protect pickers from injury.
For detailed information on Jeffrey Steel Apron Conveyors adapted to Tipple Service, see pages 180 to 185

Picking Tables



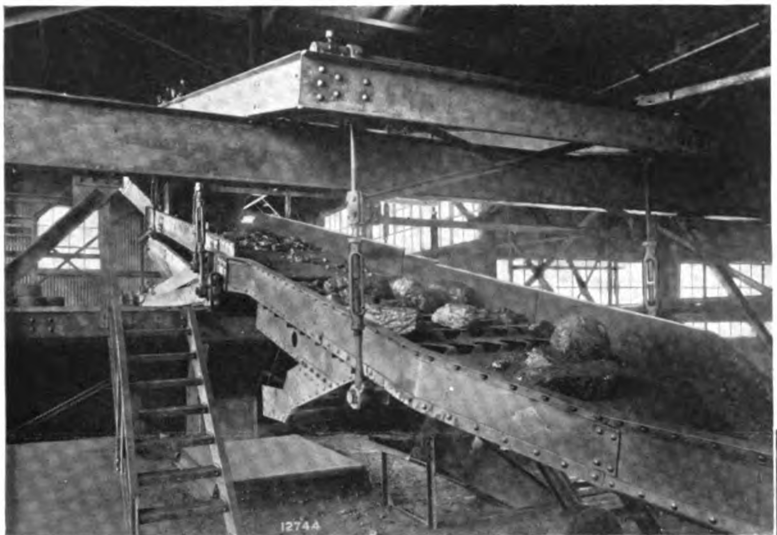
Jeffrey Combination Picking Tables and Loading Booms as installed in a Steel Tipple

Another installation of Jeffrey Combination Picking Tables and Loading Booms serving a Tipple of Wooden construction. Note the even distribution of coal upon the Conveyor.

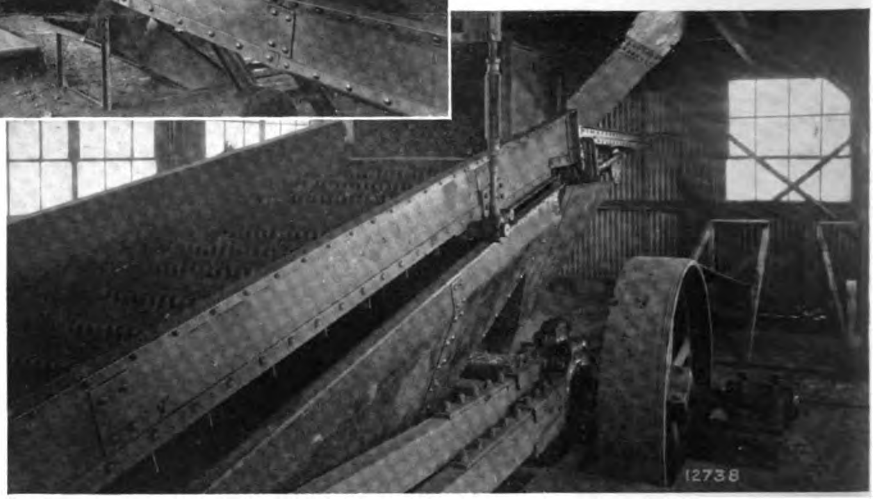
For detailed information on Jeffrey Steel Apron Conveyors adapted to Tipple Service, see pages 180 to 185.

Tipple Equipment

Shaking Screens



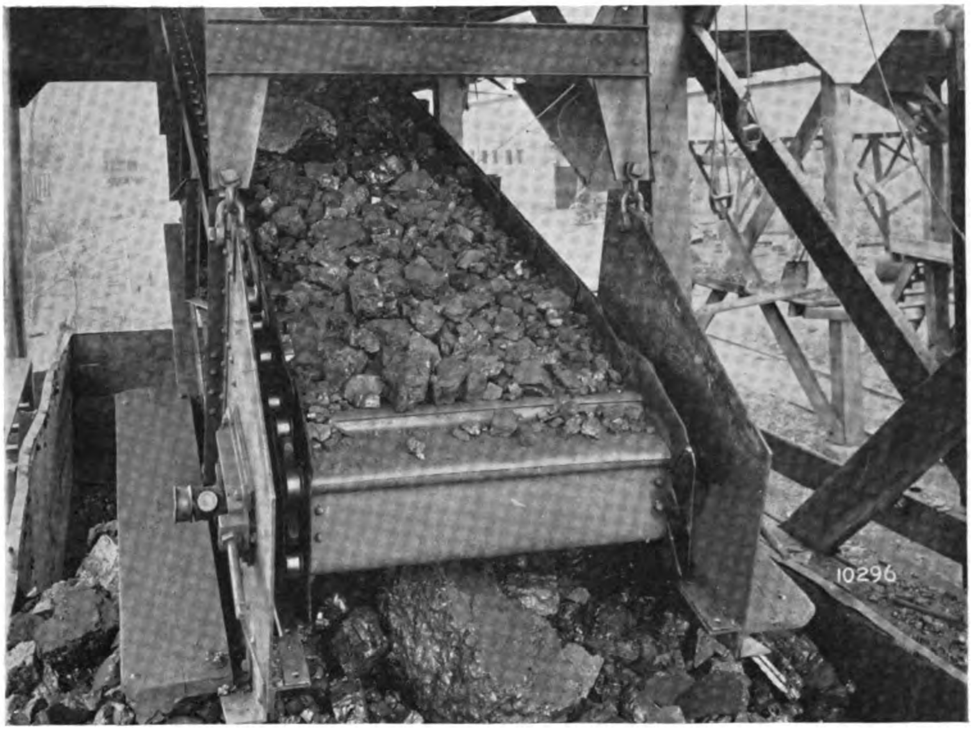
Jeffrey Standard Screens, as illustrated on this page, are designed to grade all kinds of coal.



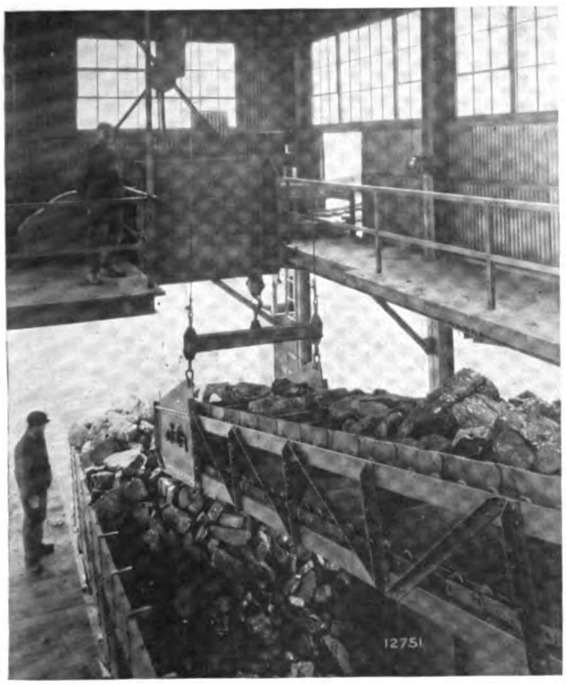
Jeffrey Screens are suspended upon adjustable hanger rods and driven by heavy duty eccentrics, and can be operated with or without veils.

The left hand illustration shows the improved method of delivering coal uniformly to boom with minimum breakage—note manner of using veil plates.

Loading Booms



A Standard Steel Apron Type Loading Boom delivering coal to railroad car. Equipped with foot boards for final inspection of coal by car trimmer.

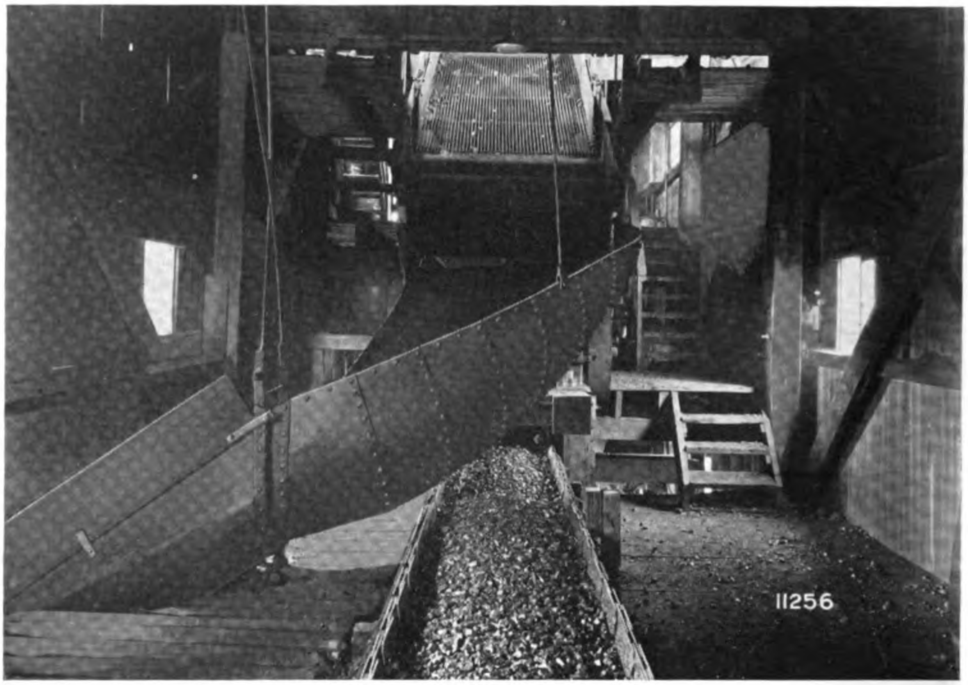


Typical standard one-man operated Loading Boom, which can be equipped with electrical or mechanical hoist.

The ends of Jeffrey Booms are designed to protect the Steel Apron and reduce trimming to a minimum.

For Detailed Information on Jeffrey Steel Apron Conveyors adapted to Tipple Service, see pages 180 to 185.

Coal Chutes and Bar Screens



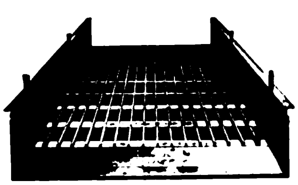
Jeffrey Curved Chute delivering coal from bar screen to railroad car

Chutes Designed to Meet Special Requirements.

Curved Bottom Chute

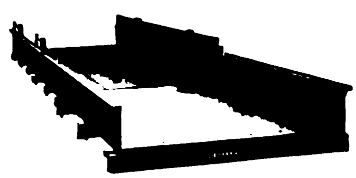
Straight Bottom Chute

Special Curved Chute



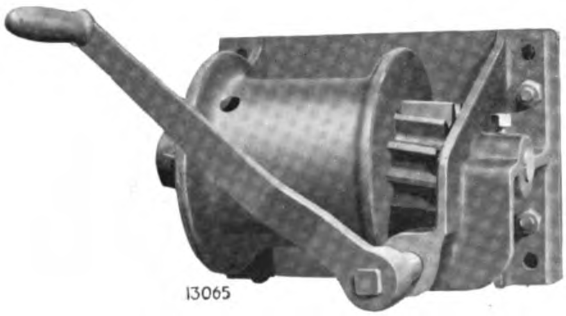
Standard Bar Screens. Bearing bars notched to suit size of coal wanted.

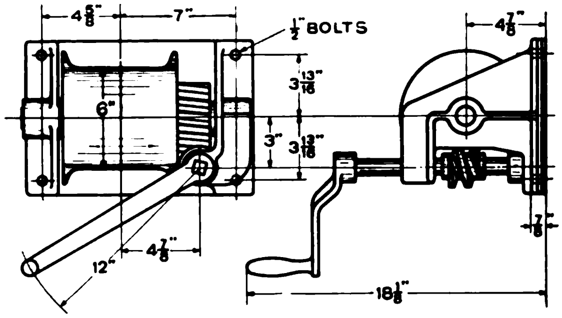
Cross Patented Flanged Lip Screen Plate used in Screens and Chutes.



Standard Bar Screen with veils.

Wall Winch

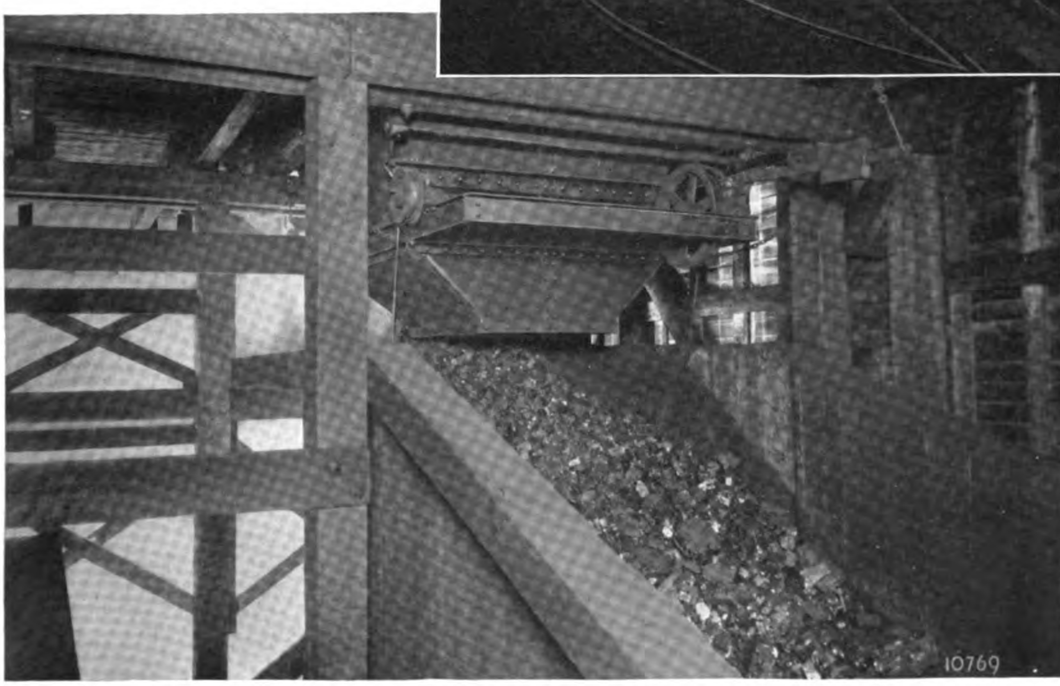




A convenient general utility self-locking 500 lb. Wall Winch, for quickly lowering and raising coal chutes in Tipples.

Dump Weigh Hopper

In the accompanying illustrations is shown a mine car Dump Weigh Hopper equipped with quick reading dial, operated by weigh-man or dump-man. Designed for any capacity of hopper and speed of dumping mine cars.



Tipple Equipment

Belt Conveyors

A simple, rugged and economical Belt Conveyor installed in a Tipple for handling coal.

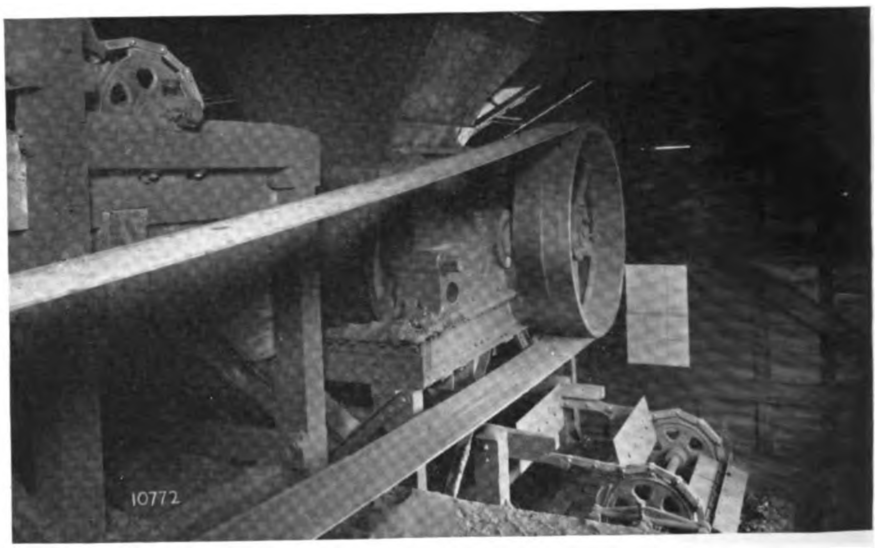
For detailed information on Jeffrey Belt Conveyors, see pages 223 to 268.

Crusher and Scraper Conveyors

A Crusher installation arranged with Scraper Conveyor to mix slack and crushed coal in a large tipple.

For detailed information on Jeffrey Scraper Conveyors, see pages 269 to 328.

For detailed information on Jeffrey Single Roll Crushers, see pages 565 to 577.



Crusher and Bucket Elevators

At the left is shown an arrangement using Jeffrey Bucket Elevator for carrying coal from Single Roll Crusher.

For detailed information on Jeffrey Bucket Elevators, see pages 363 to 398.

Retarding Conveyors

FOR lowering large quantities of coal down long mountain slopes, the Jeffrey Cable Retarding Conveyor has proven to be the most economical in both initial cost and upkeep, while the Scraper Retarding Conveyor is the least expensive for shorter distances.

Cable

The Jeffrey Cable Retarding Conveyor consists of an endless wire rope upon which are mounted discs or flights at regular intervals. This rope works over sheaves at both ends of the conveyor. The discs run in a steel trough thereby lowering the coal gently to the discharge point.

Slopes of conveyors are often such that the coal handled naturally slides in the conveyor trough with the discs retarding the coal to a uniform speed instead of pulling it, so that the loaded conveyor generates power rather than uses it.

Thus with practically no power the Jeffrey Cable Conveyor will handle your coal down to the tipple with minimum breakage.

For detailed information on Wire Rope, Clamps and Sheaves, see pages 337 to 341.

Scraper

The Jeffrey Scraper Retarding Conveyor consists of rugged steel flights, mounted between two strands of either Jeffrey Flat and Round Link or Steel Thimble Roller Type of Chain, operating in a steel trough.

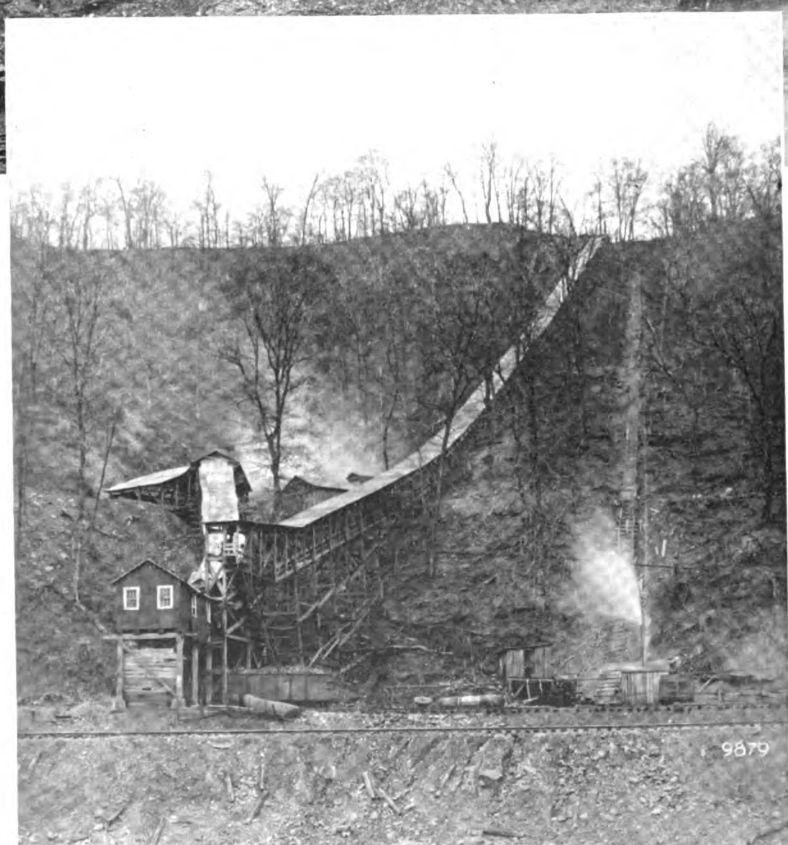
Like the Cable Retarding Conveyor, the Scraper retards the coal rather than conveys it. This type of Conveyor can be readily extended into the horizontal or up another incline to suit the local ground conditions or factory arrangement, and the power received from the coal sliding down the inclined portion aids in carrying the coal in the horizontal portion.

For Detailed Information on Jeffrey Standard Scraper Conveyors adapted to this class of service, see pages 269 to 328.

Tipple Equipment

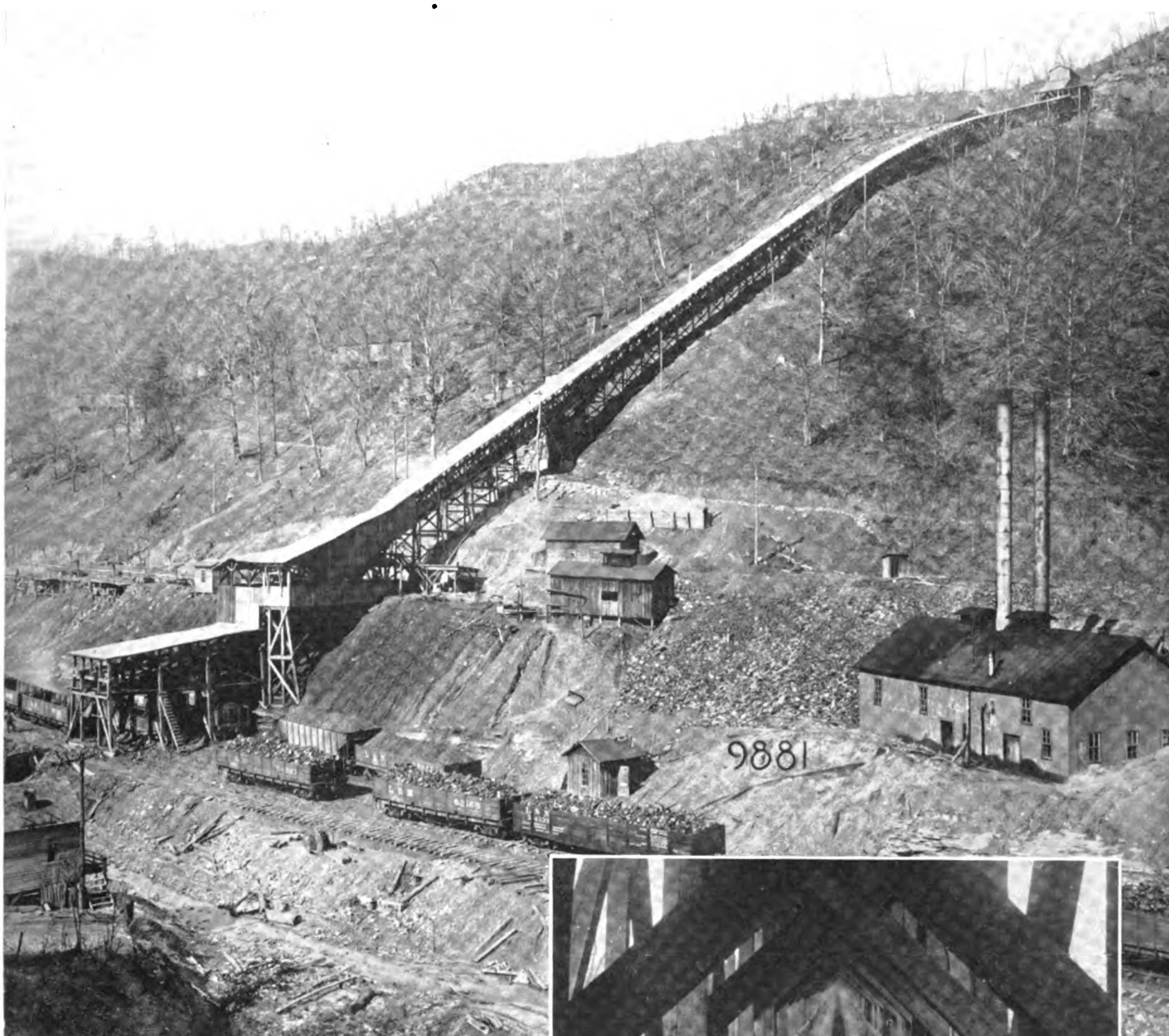
Cable Retarding Conveyors

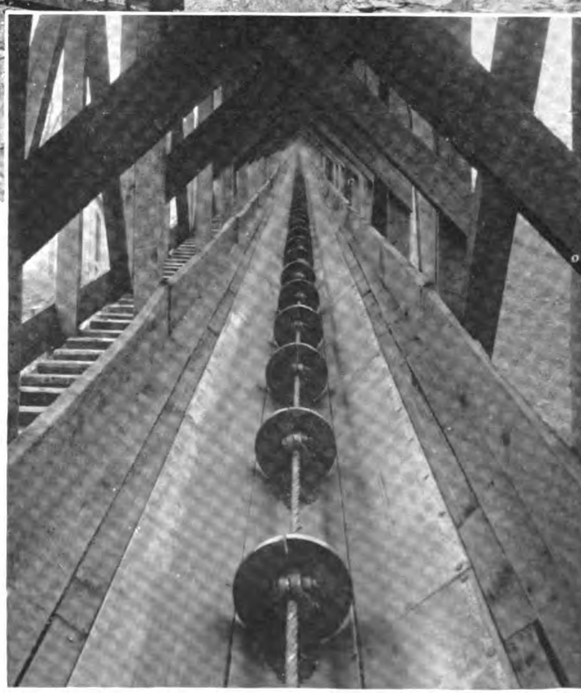
In the above installation, coal is brought down the mountain side at the rate of 125 tons per hour, through an incline of 29 degrees, a distance of 346 feet from the head house to the tipple in the foreground, by a Jeffrey Cable Retarding Conveyor.



On the left is another Jeffrey installation, 734 feet centers on a 27 degree slope, handling 150 tons of coal per hour at a speed of 80 feet per minute.

Cable Retarding Conveyors





The mammoth Conveyor shown above is 906 feet long with upper end on an incline of 17 degrees and lower end 25 degrees, joined together by a long sweeping curve conforming to the contour of the hill. This arrangement reduces excavation and structure to a minimum. The conveyor has a capacity of 150 tons per hour and during rush periods handles 50 per cent more, with a remarkable record for low upkeep.

At the left is illustrated the carrying trough of the above conveyor.

Tipple Equipment

Cable Retarding Conveyors

A 1500 foot Standard Cable Retarding Conveyor handling 250 tons of coal per hour with practically no power required to operate.

The Carrying Trough of the above Conveyor, showing that no finished lumber is required

Cable Retarding Conveyors

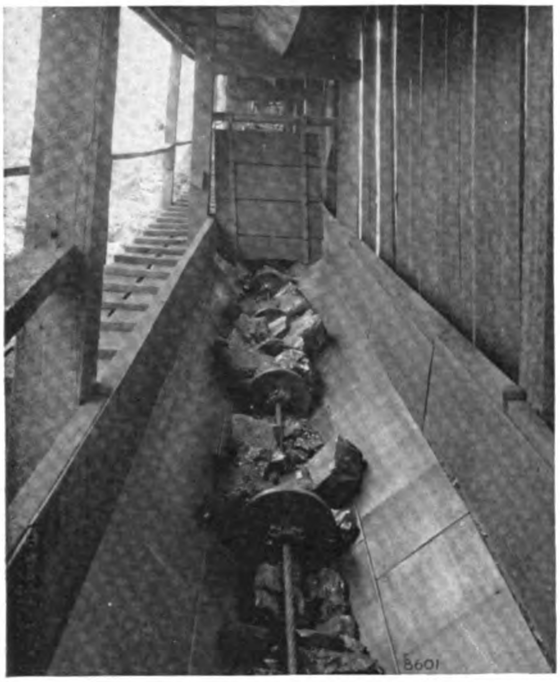
At the left is shown another Jeffrey Retarding Conveyor which is 940 feet centers on an incline of 27 degrees.

A Retarding Conveyor serving two mines having a capacity of 300 tons per hour on a slope of 30 degrees. These conveyors can be arranged for any number of loading points.

Below is shown a Combination Jeffrey Cable Retarding and Belt Conveyor to handle 350 tons of coal per hour from head house to four-track tipple.

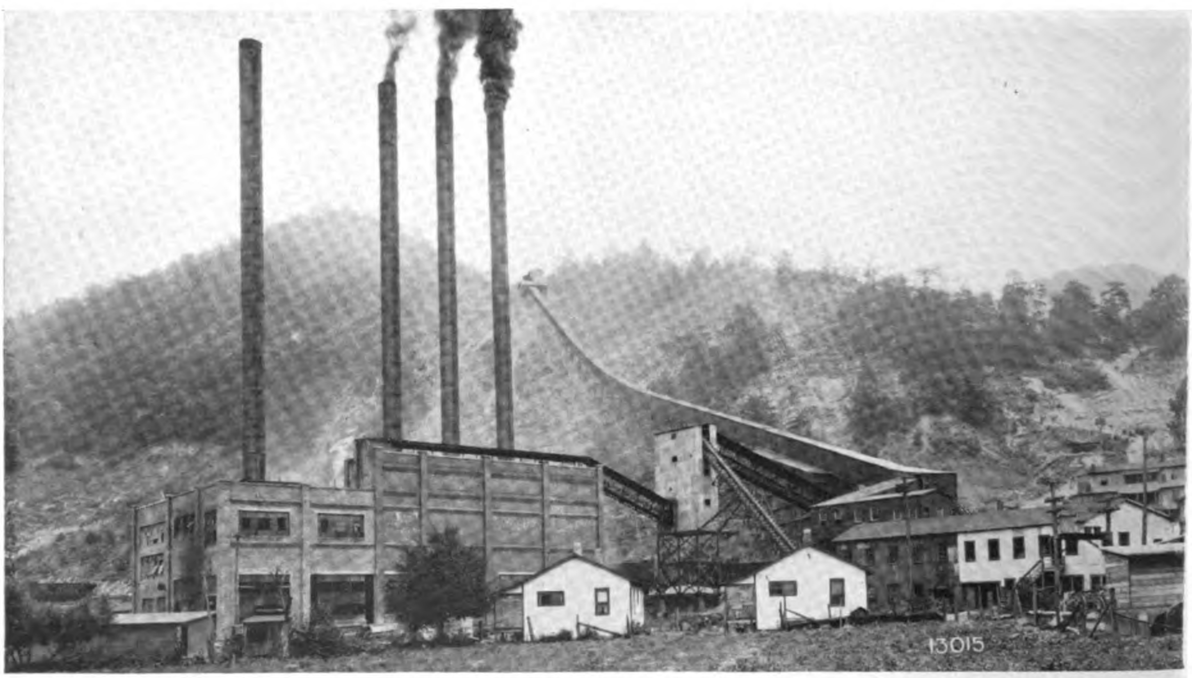
Tipple Equipment

Cable Retarding Conveyors



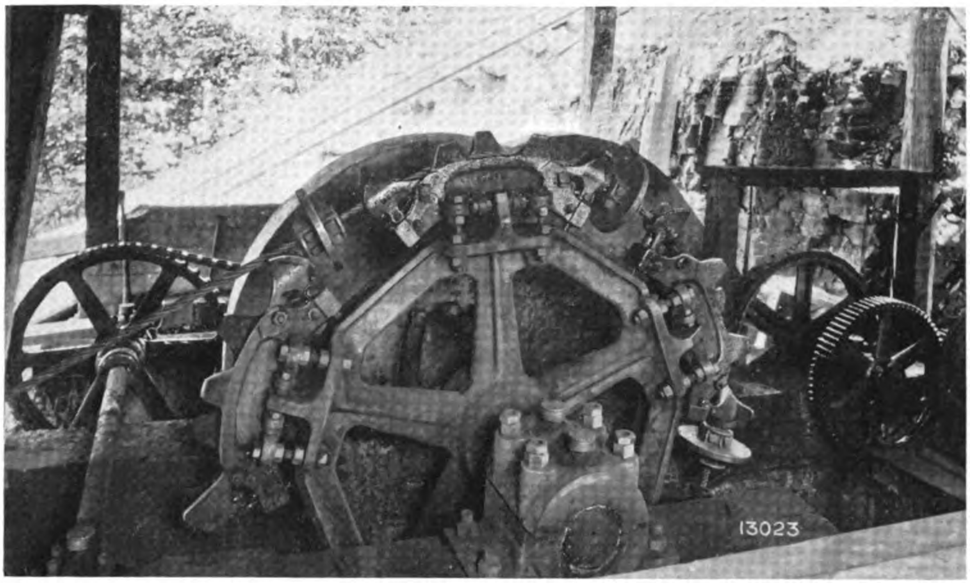
When the angle of the Conveyor is in excess of 30 degrees, baffles as shown are used to prevent avalanching of coal down the trough and causing damage to the structure.

An installation of a Belt Conveyor receiving coal from Cable Retarding Conveyor showing fingers allowing slack to deposit on belt, forming a cushion for the large lumps, thus protecting the belt.



Jeffrey Standard Cable Retarding Conveyor 1100 feet long serving both Tipple and Power House

Cable Retarding Conveyors



Driving Mechanism

ORDINARILY the natural slope of the mountain is sufficiently steep for the coal to slide of its own accord in a trough for which the best conveyor slope has been found to be about 26 degrees. Where the coal thus slides, the conveyor acts as a retarder by holding the coal back to a desired speed so that the motor, which is used to start the empty conveyor, acts as a generator and forces current back into the line. This increases the conveyor speed about 15 per cent, which is allowable.

As it is often customary to direct connect a picking table or feeder to the upper end of the conveyor, some of the energy thus produced is utilized for that purpose.

The Driving Mechanism of a Cable Retarding Conveyor consists of a very ruggedly designed sheave, heavy shafting and gears, direct-connected to an ample motor to suit the slope and duty required of the Conveyor.

When the incline is steep, solenoid brakes are employed to prevent acceleration of conveyor, should current be suddenly interrupted. Conveyors on a moderate slope are equipped with heavy band brake, for control in icy or inclement weather conditions.

This Driving Machinery is mounted on concrete foundation having heavy timbers serving as cushions between foundation and bearings, thus insuring alignment.

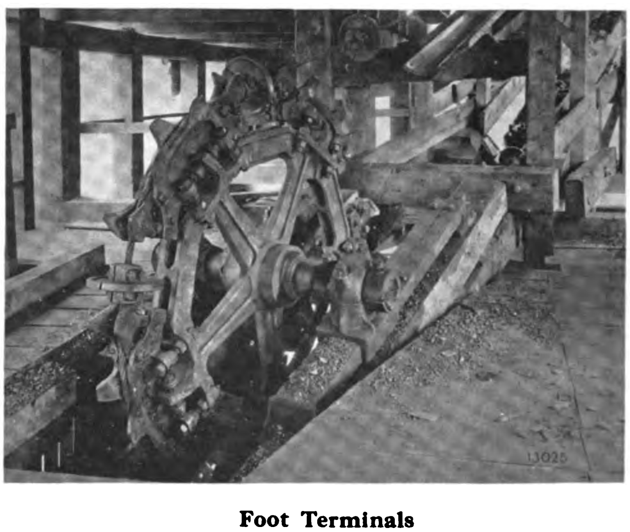
The Foot Terminal consists of a sheave, collars, shaft and long adjustment ball and socket heavy type take-ups.

Why the Slope of the Mountain must be considered

When the slope is less than that upon which coal will slide the conveyor ceases to be a retarder, and power is necessary at all times for its operation.

Often the slope is such that one end of the conveyor acts as a retarder while the other end requires power.

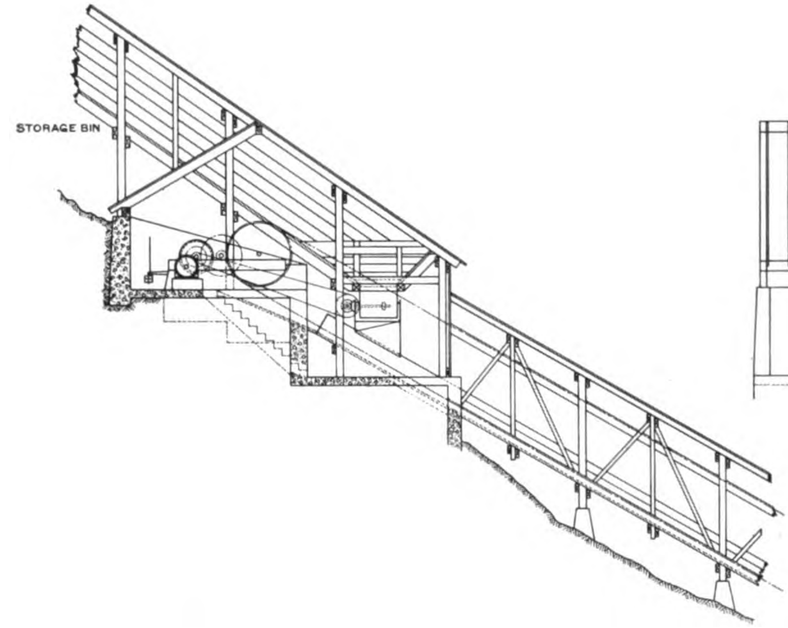
It is best, however, to have a single slope varying from zero to 26 degrees with 35 degrees as a limit. Should the contour of the hill be such as to break the conveyor up into two slopes the upper slope should be not more than 35 degrees and the lower one not less than 12 degrees, with a connecting curve from 1000 to 1500 feet in radius.

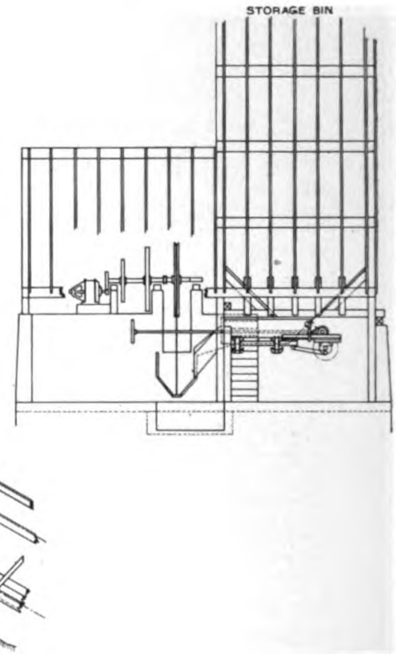


Foot Terminals

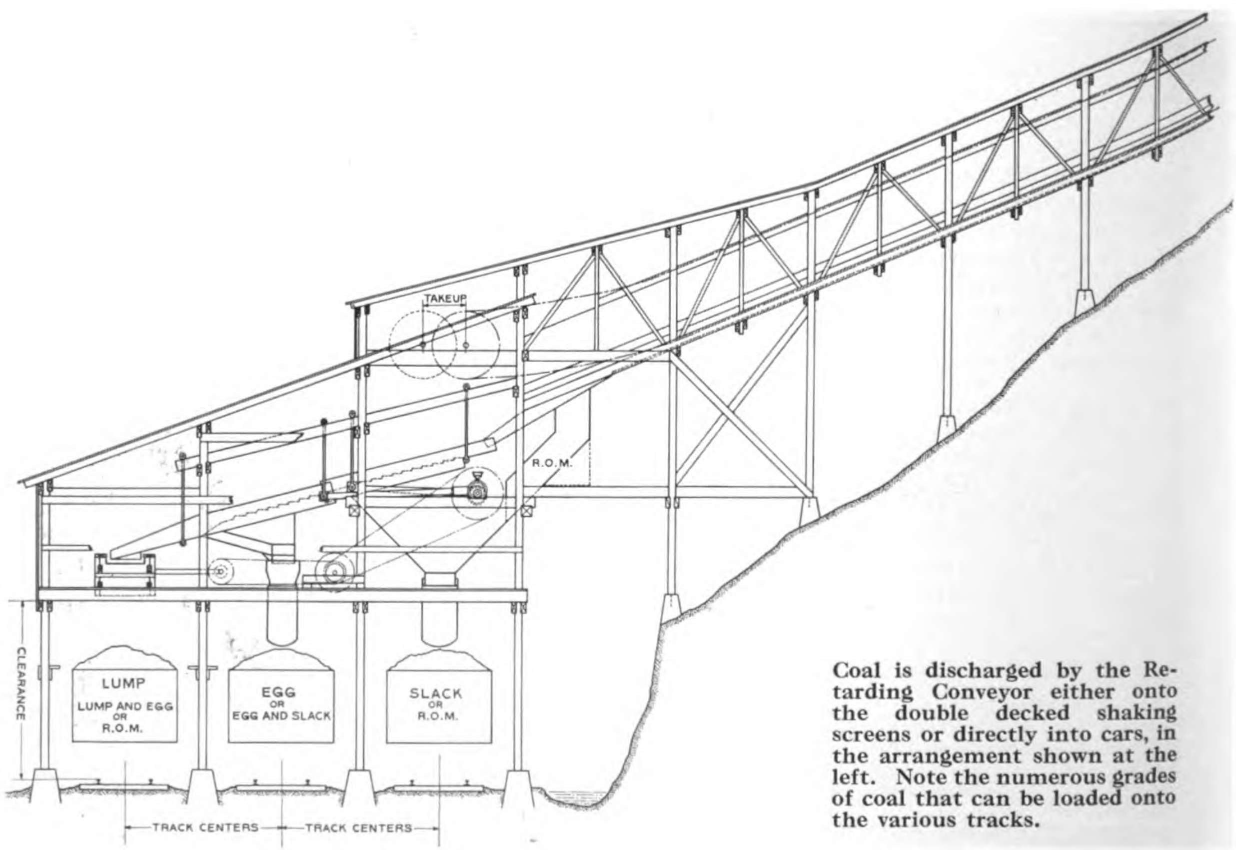
Tipple Equipment

Mechanical Handling of Coal at the Mines





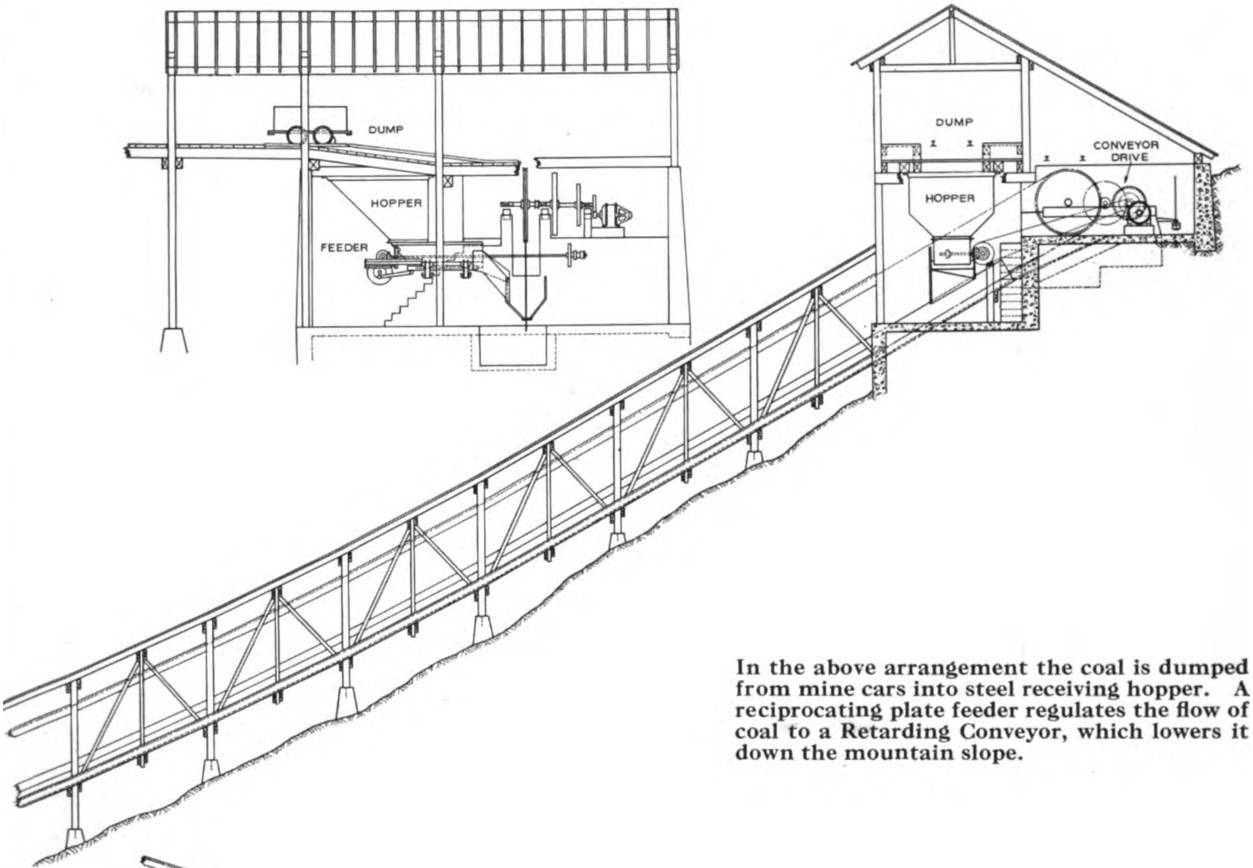
Above is shown an arrangement for delivering coal from storage bin to Retarding Conveyor



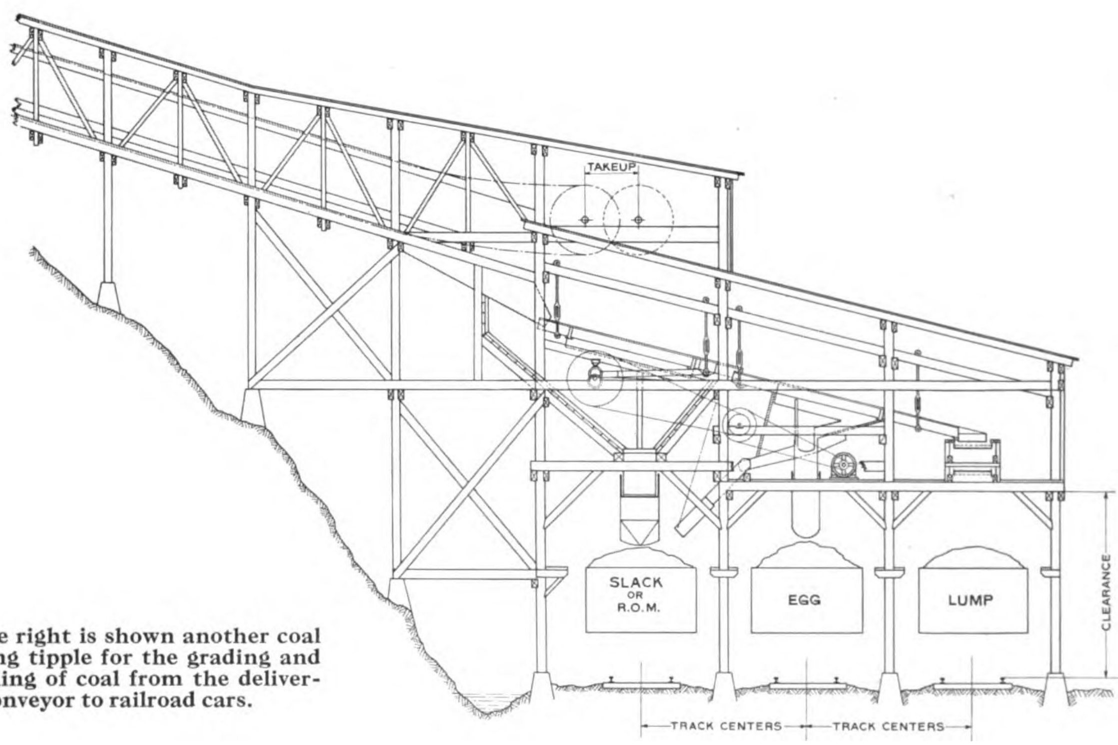
Coal is discharged by the Retarding Conveyor either onto the double decked shaking screens or directly into cars, in the arrangement shown at the left. Note the numerous grades of coal that can be loaded onto the various tracks.

Tipple Equipment

Mechanical Handling of Coal at the Mines



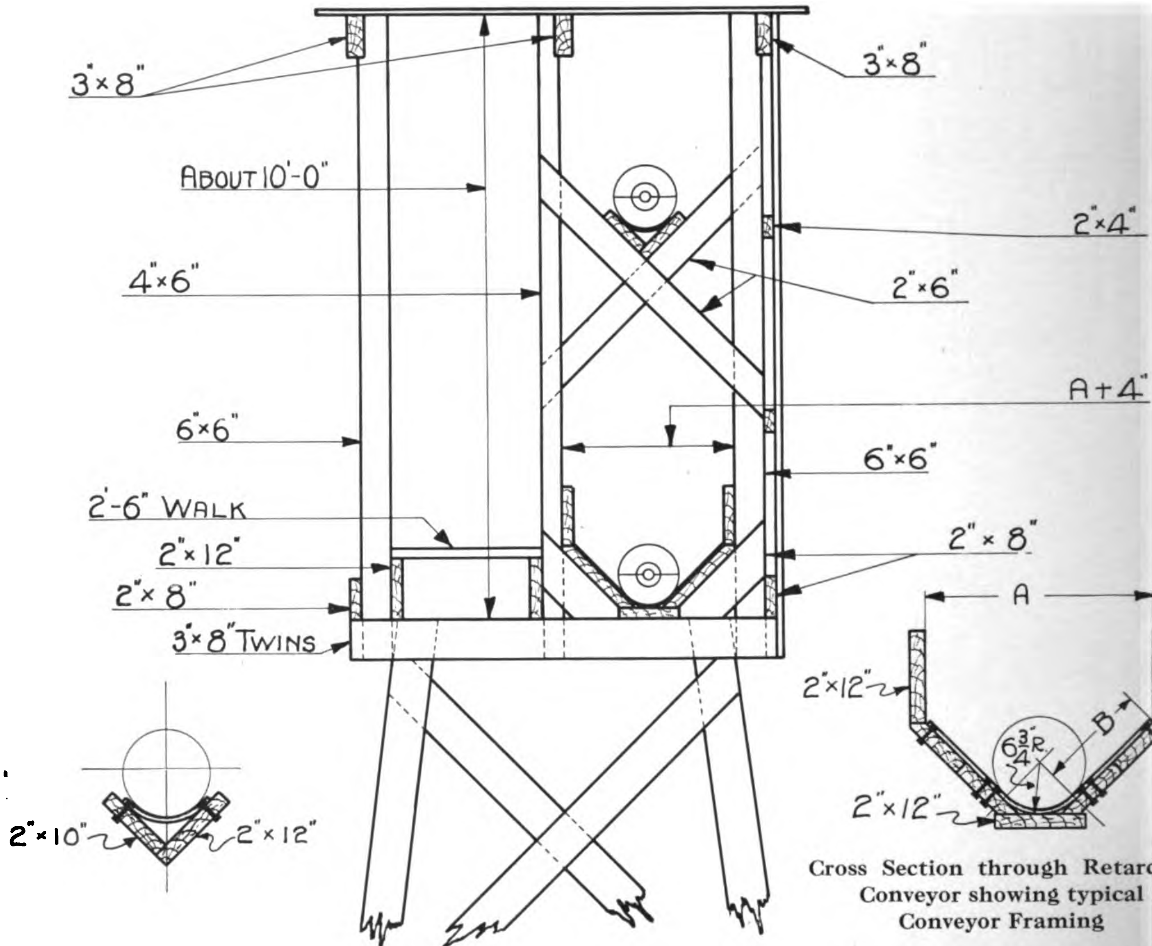
In the above arrangement the coal is dumped from mine cars into steel receiving hopper. A reciprocating plate feeder regulates the flow of coal to a Retarding Conveyor, which lowers it down the mountain slope.



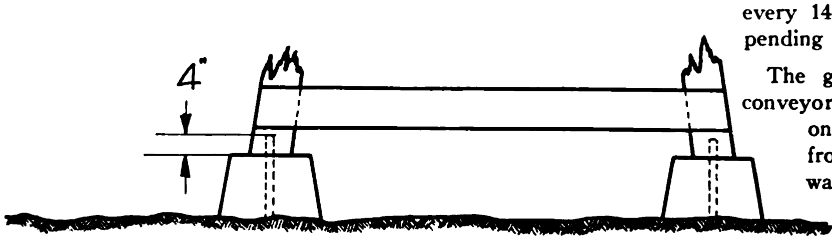
At the right is shown another coal loading tipple for the grading and handling of coal from the delivering conveyor to railroad cars.

Tipple Equipment

Cable Retarding Conveyors



Cross Section through Retarding Conveyor showing typical Conveyor Framing



THE frame work is ordinarily constructed as shown in the above drawing. Bents are spaced every 14 to 15 feet horizontally, depending on the slope of the conveyor.

The gallery frames enclosing the conveyor and walkway, are placed one over each bent support up from the ground and one midway between them. These midway frames are usually 4x6 for the outside uprights and 4x4 for the middle uprights.

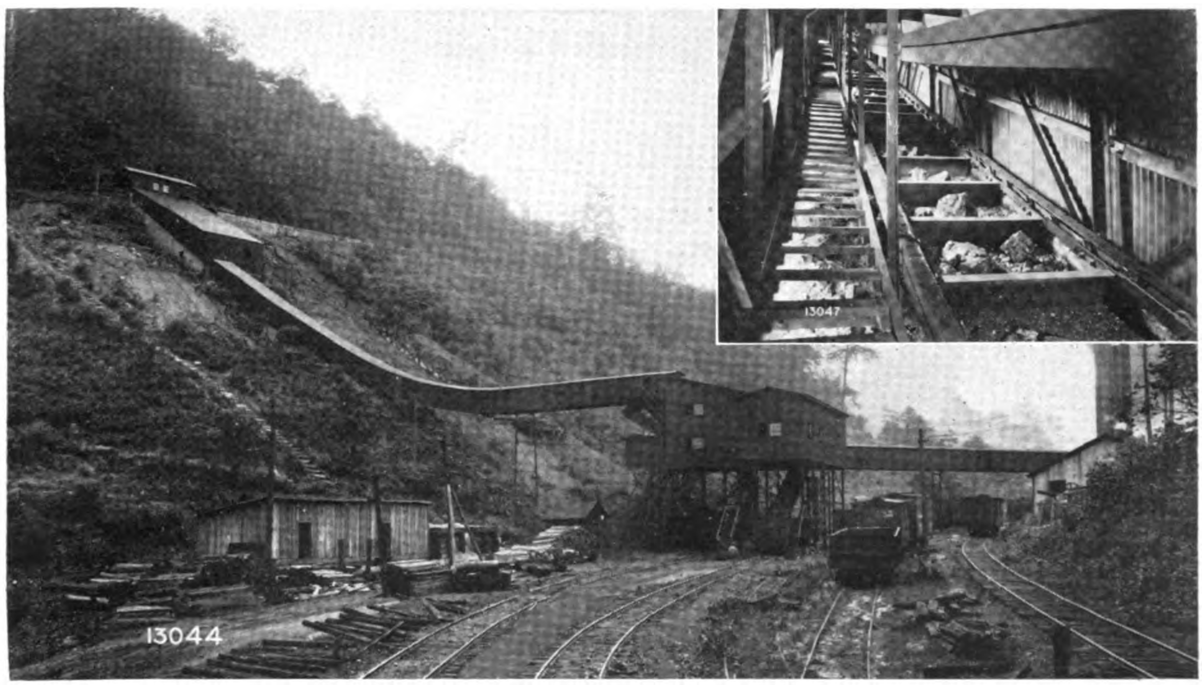
It is customary to board up at least the weather side.

Size of Coal (See Note below)		A	B	Sizes of Timber in Carrying Trough
Uniform	Maximum			
10	20	30	14¾	3 Pcs. 2x12 4 Pcs. 2x10
12	24	36	18¾	7 Pcs. 2x12
15	30	42	22¾	3 Pcs. 2x12 4 Pcs. 2x10 2 Pcs. 2x8

"Uniform" size of coal is when 70 to 80 percent of the whole runs about to the sizes listed, with "maximum" pieces as given not exceeding 10 percent.

Scraper Retarding Conveyors

A typical coal conveying installation, consisting of a Dump Hopper, reciprocating Plate Feeder, Scraper Conveyor and a Three-track Tipple, equipped with screens and booms. Insert shows a section through the Scraper Retarding Conveyor.



The above illustrations show an application of the Scraper Conveyor for handling coal from a large mine. Insert shows the Scraper Retarding Conveyor consisting of rectangular scrapers mounted between two strands of Steel Thimble Roller Chain.

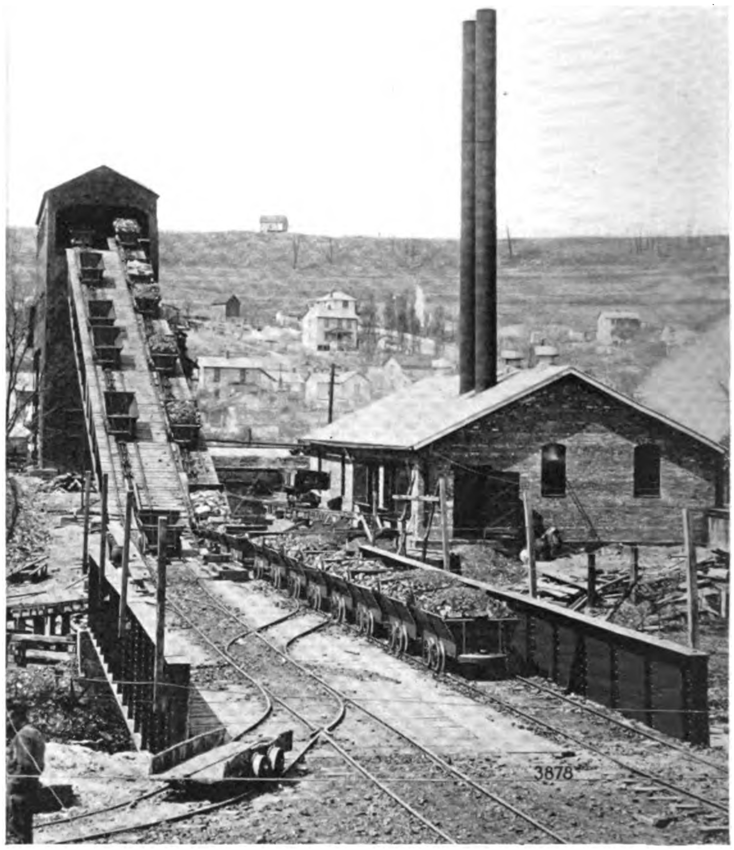
Tipple Equipment

Cable Car Haul

THE advantage of the Car Haul is in its ability to bring the cars from the mines at or near the ground level up to the loading tipple dumping directly on to screens or into cars.

On the Cable Haul by alternately reversing the haul-up spurs, one side of an endless wire cable raises loaded cars while the opposite side lowers the empty cars.

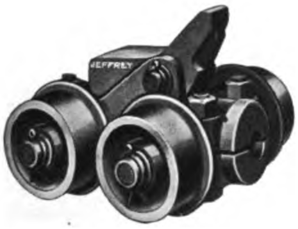
When adapted to long slopes with large terminal curves, the Jeffrey Sheaves, the smooth running and small power consumption of the rope type of haul-up, commends it to all operators. The radius of curves at the Top and Bottom of Haul-ups taken to the center of the cable should be approximately not less than 100 feet at the top and approximately not less than 50 feet at the bottom with all adjoining straight lines tangent to such curves in order to obtain best results from the cable.



The accompanying illustrations show the handling of coal from mine to tipple by means of Cable Car Hauls.

Tipple Equipment

Cable Car Haul Attachments



Four Wheel Counter-Weighted Car Pusher

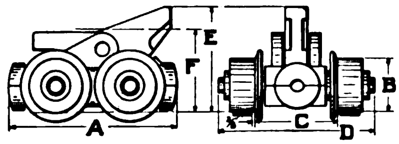


Fig. 1—Double Axle Tilting Spur

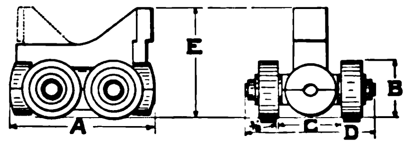
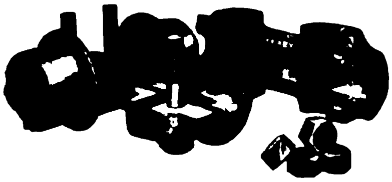
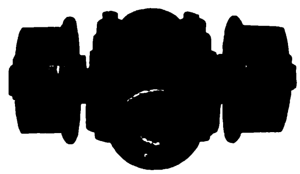


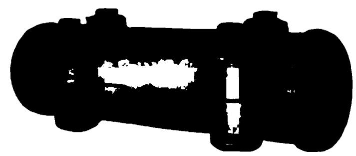
Fig. 2—Double Axle Rigid Spur



Four Wheel Transmission Block Unassembled



Two Wheel Transmission Block Assembled



Plain Transmission Block

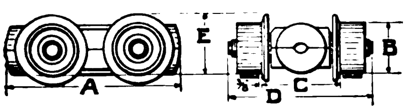


Fig. 3—Double Axle Transmission Clamp

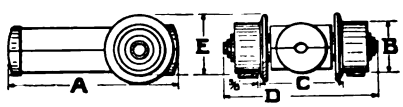


Fig. 4—Single Axle Transmission Clamp

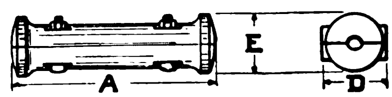


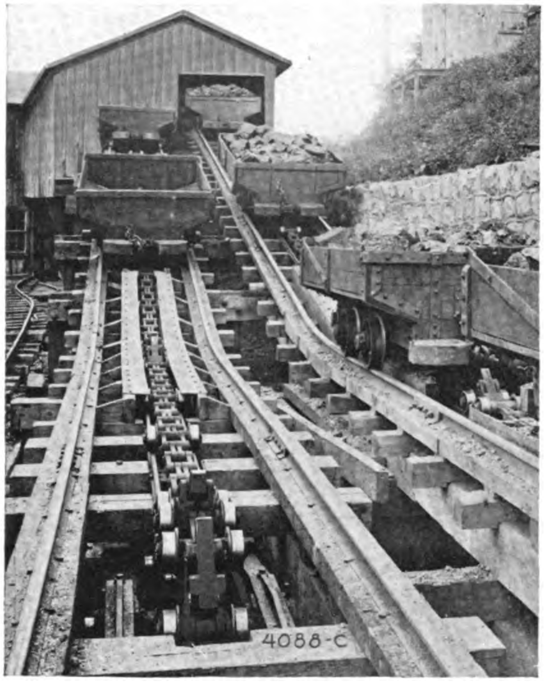
Fig. 5—Plain Transmission Clamp

Catalog Number	Kind of Clamp	Cable	Type of Axle	Axle Material	Dimensions—Inches						Work Holding Strength in Lbs.	Approx. Weight Lbs.
					A	B	C	D	E	F		
CH-1		5/8	Double	Steel	13	4	6¼	11¾	7¾	6¼	6000	82
CH-2	Tilting	7/8	Double	Steel	13	4	6¼	11¾	7¾	6¼	9000	79
CH-3	Spur	1⅛	Double	Steel	13	4	6¼	11¾	7¾	6¼	18900	97
CH-4	Clamp	1⅛	Double	Steel	13	4	6¼	11¾	9¼	7½	18900	104
CH-5	Fig. 1	1¼	Double	Steel	13	4	6¼	12	8	6¼	18900	112
CH-6		1½	Double	Steel	15	5	8½	14	11⅞	8¼	40000	172
CH-7		½	Single	Mall.	3 9/16	3	3¼	6½	7½	7¾	1900	10
CH-8	Rigid	5/8	Single	Mall.	4 5/16	3¼	3½	7½	7⅝	7⅞	1900	19
CH-9	Spur	¾	Single	Mall.	4⅜	4	4	8	6	6¼	1900	18
CH-10	Clamp	7/8	Double	Mall.	10½	4	4½	9⅜	8	8¼	6000	50
CH-11	Fig. 2	1	Double	Mall.	10½	4	4½	9⅜	8	8¼	6000	50
CH-12		5/8	Single	Mall.	4 5/16	3½	4	7¾	3½	......	3000	16
CH-13		5/8	Single	Steel	13	4	6¼	11¾	4⅝	......	6000	46
CH-14	Transmission	¾	Single	Mall.	4⅜	4	4	8	4	......	1900	17
CH-15	Clamp	7/8	Single	Steel	13	4	6¼	11¾	4⅝	......	9000	51
CH-16	with	7/8	Double	Mall.	13	4	6	11	4⅝	......	9000	65
CH-17	Rollers	1⅛	Single	Steel	13	4	6¼	11¾	4⅝	......	18900	61
CH-18	Figs. 3 and 4	1⅛	Double	Steel	13	4	6¼	12	4⅝	......	12600	92
CH-19		1¼	Double	Steel	13	4	6½	12	4⅝	......	18900	100
CH-20		1½	Single	Steel	15	5	8½	14	5¾	......	40000	136
CH-21		½	Plain	....	3 9/16	......	......	2⅞	2½	......	1900	3½
CH-22		5/8	Plain	....	4 5/16	......	......	3½	3	......	1900	6½
CH-23	Plain	5/8	Plain	....	13	......	......	3¾	3	......	6000	23
CH-24	Transmission	¾	Plain	....	4 5/16	......	......	3½	3¼	......	1900	7
CH-25	Clamp	7/8	Plain	....	10½	......	......	3½	3 5/16	......	9000	21
CH-26	Fig. 5	7/8	Plain	....	13	......	......	3¾	3¾	......	9000	22
CH-27		1	Plain	....	10½	......	......	3½	3 5/16	......	9000	21
CH-28		1⅛	Plain	....	13	......	......	4¾	3½	......	18900	45
CH-29		1¼	Plain	....	13	......	......	4⅞	3⅞	......	18900	47
CH-30		½	Plain	....	3 9/16	......	......	3¼	2½	......	1900	4½
CH-31		5/8	Plain	....	4 5/16	......	......	4	3	......	1900	7
CH-32		5/8	Plain	....	13	......	......	3¾	3	......	6000	26
CH-33		¾	Plain	....	4 5/16	......	......	4⅛	3¼	......	1900	7
CH-34	Splice	7/8	Plain	....	10½	......	......	3⅝	3½	......	9000	22
CH-35	Clamp	7/8	Plain	....	13	......	......	3¾	3¾	......	9000	24
CH-36	For All Fig's	1	Plain	....	10½	......	......	3⅝	3½	......	9000	22
CH-37		1⅛	Plain	....	13	......	......	4⅜	4½	......	18900	43
CH-38		1¼	Plain	....	13	......	......	4⅝	4¾	......	18900	47
CH-39		1½	Single	....	15	5	8⅜	14	7⅛	......	31700	173

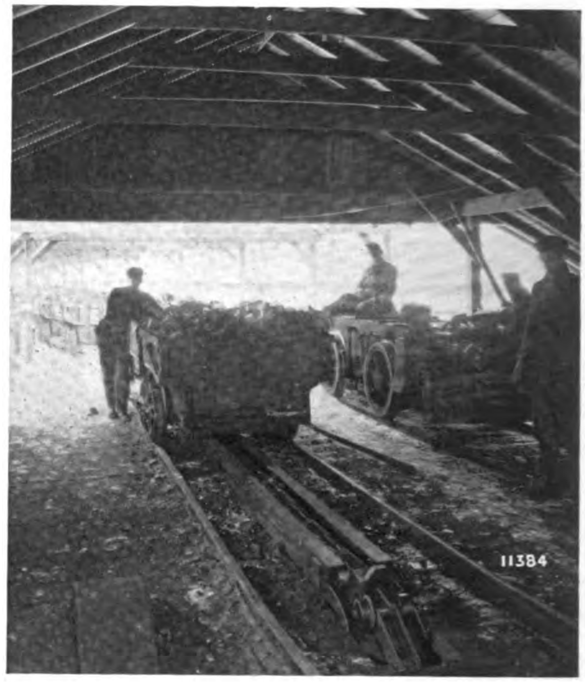
In selecting a set of clamps, care should be taken to select those of the same length "A".

Tipple Equipment

Chain Car Haul-Ups



Chain Car Haul handling coal cars to Tipple



The head end of a Jeffrey Chain Car Haul equipment

THE Cable Car Haul has its economical application to long hauls since in such cases the cost of the terminals, when proportioned to the long centers, makes a very low cost per foot of haul; while, on the other hand, with the Chain Type Haul-up, the smaller terminals make the cost less per foot of haul where the length of the haul is comparatively short.

The maximum slope of a haul-up depends upon the ability of the cars handled to maintain their equilibrium on their four truck wheels upon the slope, while the speed of the haul depends upon the car dumping facilities at the top of the slope.

Car Hauls are employed in pulling trips of mine cars and feeding them regularly to a car dump; also returning the empty cars to an elevation for making up a trip.

General View of a Car Haul and Tipple Building

Mine Equipments

Section 24

Mine Locomotives

Electric Locomotives

SINCE the first locomotive was built 40 years ago, we have made a special study of mine locomotive use and adaptation. A multitude of equipments which have been designed to meet various conditions have made it possible to incorporate in our locomotives the best ideas advanced, and as a result we have developed highly standardized lines of locomotives to meet all conditions ordinarily encountered in the mining of coal and ores, also locomotives designed especially for various industrial purposes.

Instructions For Selecting Type of Locomotive

Haulage Locomotives

Haulage locomotives are used where trains of cars can be made up ready for the locomotive. Inside wheels are preferable, especially in the larger sizes, as all the space available between the wheels can be used for the motors, the frame being located outside of the wheels. See pages 667 to 675 for illustrations.

Gathering Locomotives

Gathering locomotives gather the cars from the various working places in the mine and make up the trains for the haulage locomotives. Outside wheels are preferable on gathering locomotives as these locomotives are ordinarily comparatively small, and therefore there is sufficient room between the wheels for both motors and frame, and gives the advantage that they are easier to put back on the track in case of derailment; also, they afford the minimum overall width and allow more room for the trip rider to get around the locomotive.

It is not practical to extend the trolley wires as fast as the working places advance; therefore the gathering locomotives cannot reach the cars while running on the trolley.

There are five different types of Jeffrey gathering locomotives; Cable Reel, Crab, Combination Crab and Reel, Straight Storage Battery and Combination Trolley and Battery Locomotive. Jeffrey Engineers are therefore in a position to recommend that particular type best suited for the conditions. The Cable Reel type is the most popular and the other types are applicable under certain limiting conditions.

Cable Reel Locomotives

These locomotives are equipped with a cable reel that pays out the electric cable connected to the trolley wire. As the locomotive is traveling towards the car, the cable is paid out and automatically wound up when returning. The Cable Reel can be operated by a small motor or be driven by means of gearing from the locomotive itself. For illustration, see page 676.

Crab Locomotives

This type is provided with a motor driven reel and a small steel cable. When the locomotive has reached the end of the trolley wire, one of the men pulls the steel cable off from the reel, walks to the car and hooks on. The reel is started and the car is pulled to the locomotive and coupled. Crab locomotives should not be used unless certain conditions prevail; for instance if the cars must be pulled up grades that are too steep for a locomotive to negotiate. For illustrations see page 677.

Combination Cable Reel and Crab Locomotives

The Combination Cable Reel and Crab Locomotives are provided with two reels, one for the electric cable and one for the steel rope, driven by a single motor. This type of locomotive is not recommended unless the conditions are unusual, and warrant the complication. For illustrations see page 678.

Storage Battery Locomotives

In this type of locomotive the current is taken from a storage battery only. Storage battery locomotives are useful under certain conditions; for instance, in isolated places in the mine where it does not pay to run trolley wire. In opening up new mines, storage battery locomotives can be used to advantage for both gathering and main haulage until the mine has been opened up sufficiently and the power plant is ready so that trolley can be installed.

This type of gathering locomotive is the only kind permissible for use in gaseous mines. Jeffrey storage battery locomotive equipments have been approved by the United States Bureau of Mines, and such locomotives bear a United States Government approval plate. See page 679 for illustrations.

Combination Trolley and Battery Locomotives

The Combination Trolley and Battery Locomotive which has proven the most successful of this type, is made by using a standard haulage locomotive and adding an auxiliary battery on top. Regular 250 volt trolley motors are used. When operating on the trolley, the motors are large enough to slip the wheels. See page 680 for illustrations.

Instructions For Determining the Size and Number of Locomotives Required

Make a lay-out of the haulage system and determine the distance the cars are to be hauled, and decide upon the practical number of cars or train loads to be hauled from one place to another; then assume an average speed of six miles per hour with both empties and loads, and determine the number of trips to be made with each locomotive, allowing sufficient time for switching, etc. The total weight of the cars that can be hauled per trip depends upon the weight of the locomotive only. All Jeffrey locomotives are provided with motors that will slip the wheels. A locomotive equipped with steel tired wheels will haul a somewhat greater load than a locomotive equipped with chilled cast iron wheels. Grades must also be taken into consideration. From Table on page 666 can be determined the size of locomotive required for handling a given train load.

Track

The track gauges in American mines vary from 18″ to 56½″. This is an unfortunate condition. In late years most new mines have selected one of the following gauges; 36″, 42″, 44″, 48″. The 36″ gauge is too small for mines with large output where large haulage locomotives will be required.

In laying the track, clearance must be allowed at the curves; that is, the tracks should be spread wider than the gauge. If not, there will be undue strain on the locomotive and this is apt to cause loose wheels. The size of rails required, depends upon the weight of locomotives to be used. The minimum weight of rail in pounds per yard to be used for a certain locomotive, can be obtained by multiplying the weight supported by one locomotive wheel, by 12: Example, 10-ton, 4-wheel locomotive,

$$\frac{10}{4} \times 12 = 30 \text{ lbs. per yard.}$$

Sharp curves should be avoided under all circumstances.

A standard gathering locomotive has a wheelbase of about 40″, and a haulage locomotive has a wheelbase of about 66″.

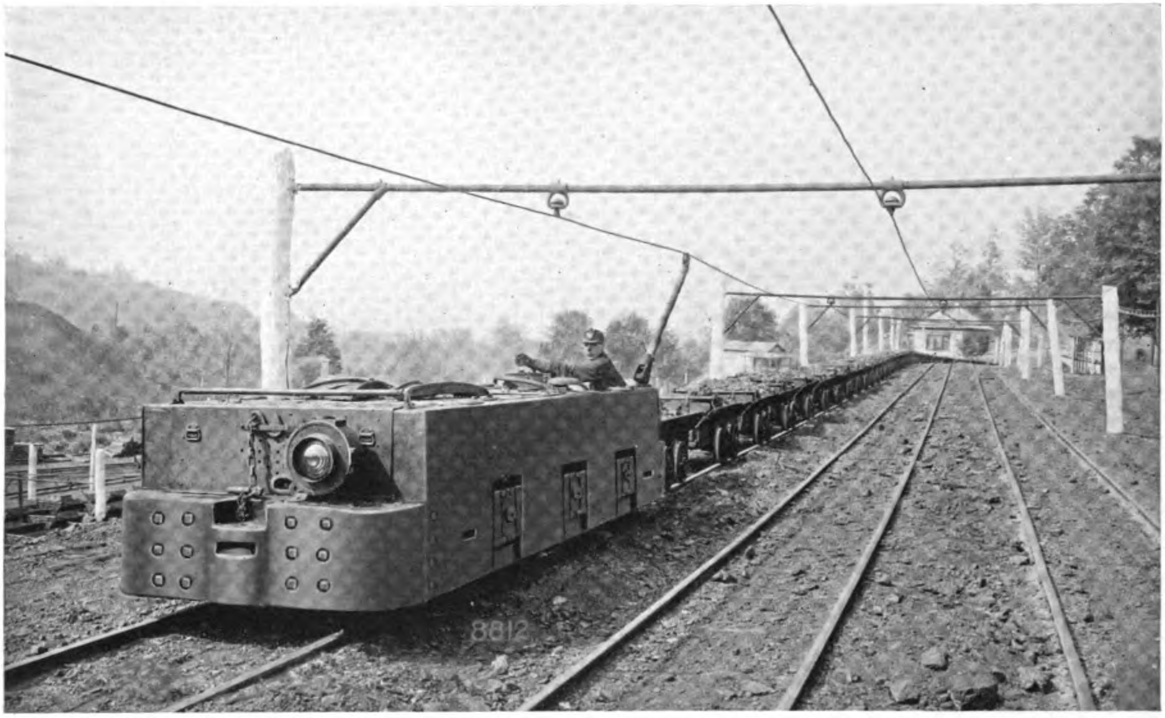
A good rule for determining the minimum radius of curve that is desirable, is to divide the wheelbase in inches by 2. Thus, a gathering locomotive should have 20-ft. radius curve, and a haulage locomotive about 30-ft. radius curve.

Mine Locomotives

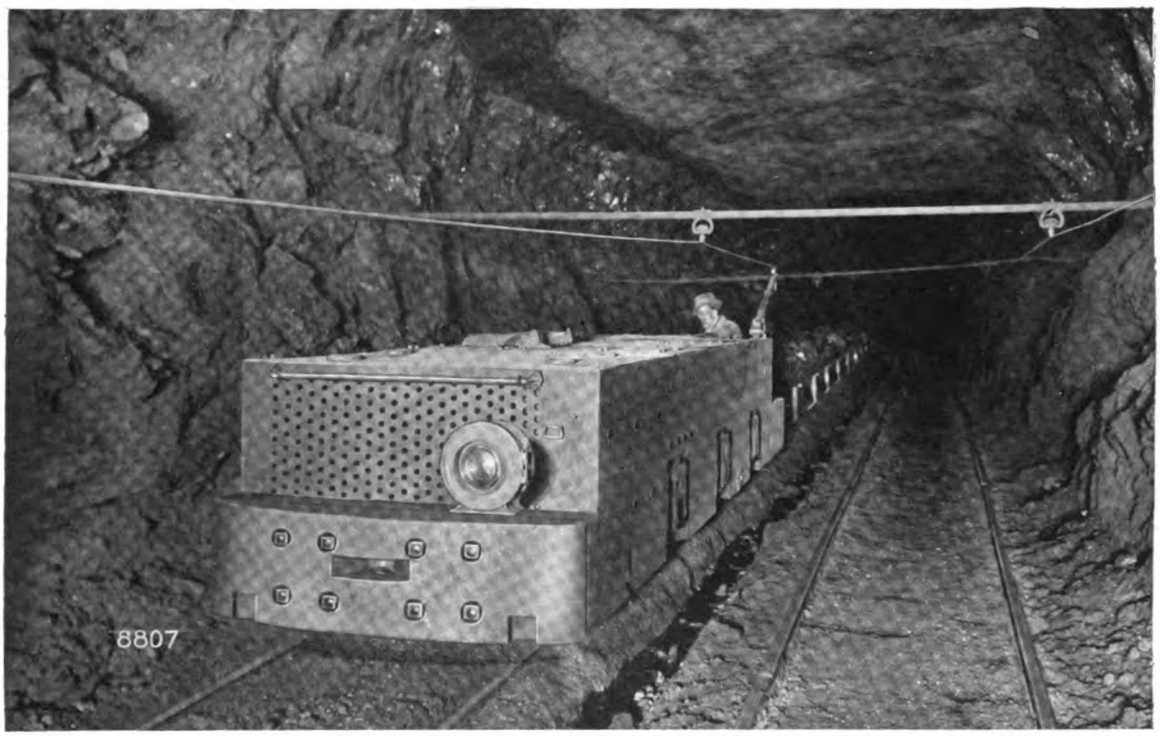
Haulage Capacity of Electric Mine Locomotives

The following table gives the draw-bar pull in pounds and the haulage capacity in tons for a given weight of locomotive on various grades, when equipped with steel tired wheels or cast chilled wheels. A co-efficient of friction of 30 lbs. per ton has been assumed on level track, and 20 lbs. per ton for each per cent of grade.

Grade		Weight of Locomotive in Tons Equipped with Steel Tired Wheels									Weight of Locomotive in Tons Equipped with Cast Chilled Wheels								
		4	6	8	10	13	15	20	25	30	4	6	8	10	13	15	20	25	30
Level	Draw Bar Pull Lbs.	2000	3000	4000	5000	6500	7500	10000	12500	15000	1600	2400	3200	4000	5200	6000	8000	10000	12000
	Haulage Cap. Tons	70	100	133	167	216	250	333	416	500	53	80	107	133	174	200	267	330	400
1%	Draw Bar Pull Lbs.	1920	2880	3840	4800	6240	7200	9600	12000	14400	1520	2280	3040	3800	4940	5700	7600	9500	11400
	Haulage Cap. Tons	39	58	77	96	126	144	192	240	287	31	45	61	76	98	114	152	190	227
2%	Draw Bar Pull Lbs.	1840	2760	3680	4600	5980	6900	9200	11500	13800	1440	2160	2880	3600	4680	5400	7200	9000	10800
	Haulage Cap. Tons	26	39	53	66	85	99	132	164	197	20	31	41	51	67	77	103	118	156
3%	Draw Bar Pull Lbs.	1760	2640	3520	4400	5720	6600	8000	11000	13200	1360	2040	2720	3400	4420	5100	6800	8500	10200
	Haulage Cap. Tons	20	29	39	49	63	73	98	122	146	15	23	30	38	49	57	75	95	113
4%	Draw Bar Pull Lbs.	1680	2520	3360	4200	5460	6300	8400	10500	12600	1280	1922	2560	3200	4160	4800	6400	8000	9600
	Haulage Cap. Tons	15	23	30	38	50	57	76	96	114	12	17	23	29	38	43	58	72	87
5%	Draw Bar Pull Lbs.	1600	2400	3200	4000	5200	6000	8000	10000	12000	1200	1800	2400	3000	3900	4500	6000	7500	9000
	Haulage Cap. Tons	12	18	25	31	40	46	62	77	92	9	14	18	23	30	35	46	58	70
6%	Draw Bar Pull Lbs.	1520	2280	3040	3800	4940	5700	7600	9500	11400	1120	1680	2240	2800	3640	4200	5600	7000	8400
	Haulage Cap. Tons	10	15	20	26	33	38	51	64	76	7	11	15	19	24	28	37	46	56
7%	Draw Bar Pull Lbs.	1440	2160	2880	3600	4680	5400	7200	9000	10800	1040	1560	2080	2600	3380	3900	5200	6500	7800
	Haulage Cap. Tons	8	13	17	21	27	32	42	53	63	6	9	12	15	20	23	31	38	46
8%	Draw Bar Pull Lbs.	1360	2040	2720	3400	4420	5100	6800	8500	10200	960	1440	1920	2400	3120	3600	4800	6000	7200
	Haulage Cap. Tons	7	11	14	18	23	27	36	45	53	5	7	10	13	16	19	27	32	38
9%	Draw Bar Pull Lbs.	1280	1920	2560	3200	4160	4800	6400	8000	9600	880	1320	1760	2200	2860	3300	4400	5500	6600
	Haulage Cap. Tons	6	9	12	15	20	23	30	38	46	4	6	8	10	14	16	21	26	32
10%	Draw Bar Pull Lbs.	1200	1800	2400	3000	3900	4500	6000	7500	9000	800	1200	1600	2000	2600	3000	4000	5000	6000
	Haulage Cap. Tons	5	8	10	13	17	19	26	32	39	3	5	7	9	11	13	17	22	26

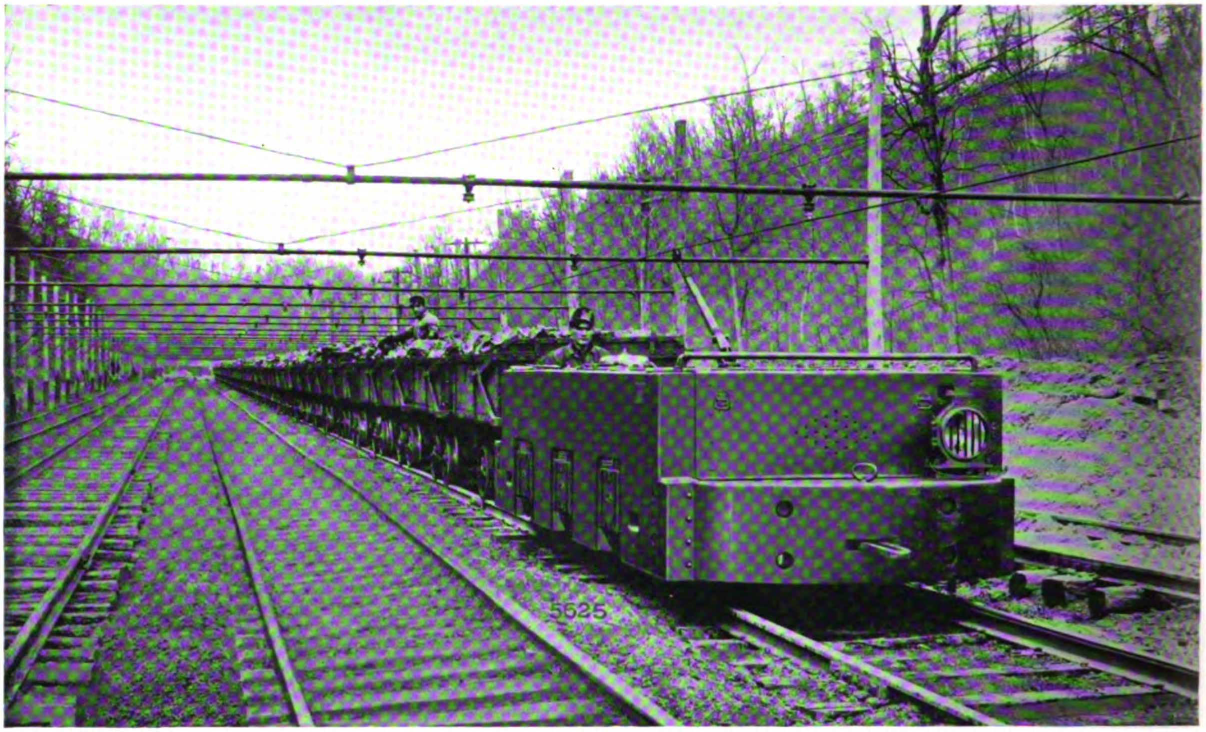


Jeffrey 30-Ton Armorplate Electric Locomotive.
This design permits heavy locomotives with large motor capacity to be used on light rails.

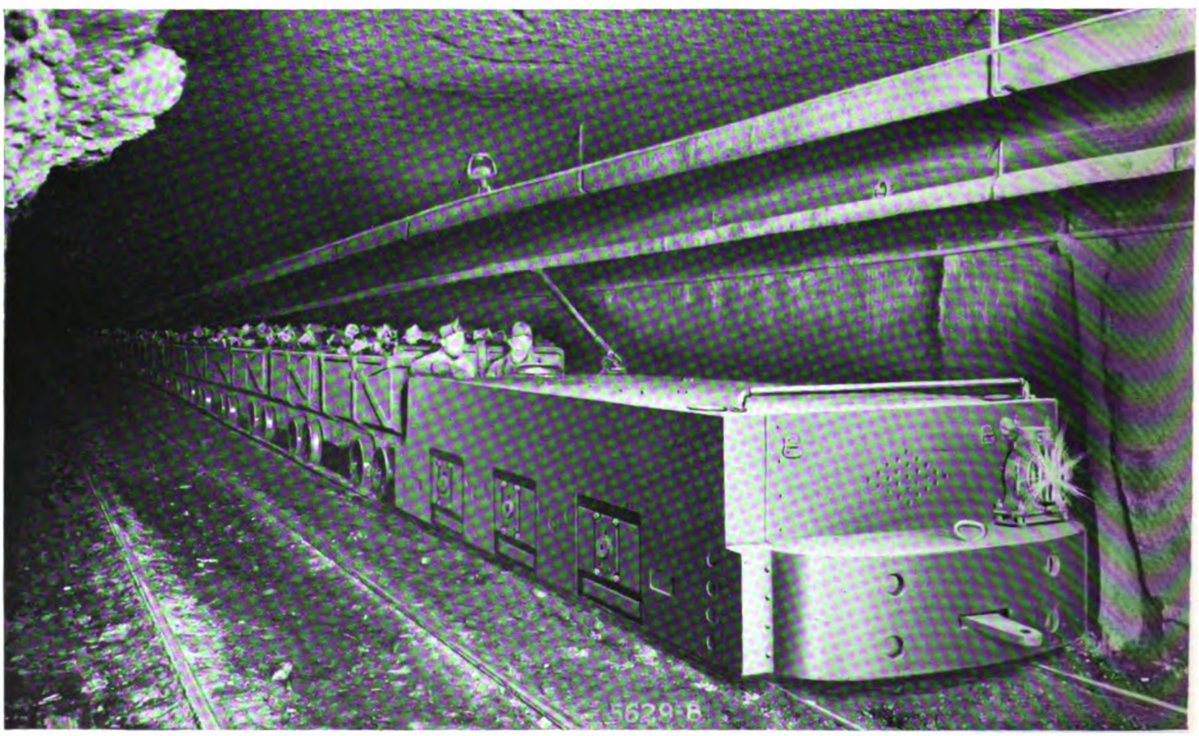


Jeffrey 30-Ton Armorplate Electric Locomotive Hauling Trip Inside of Mine.
The perfect balance of this large locomotive and the equalizers used with the journal springs allow the wheels to follow uneven track.

Mine Locomotives

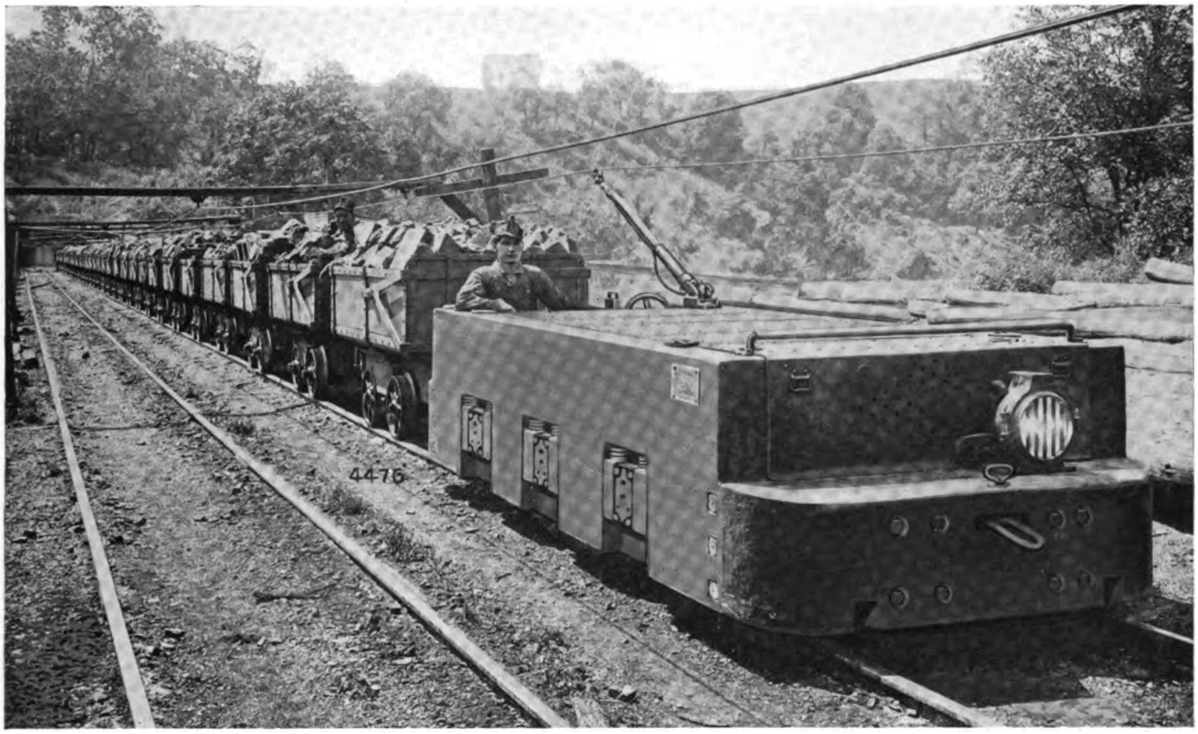


Jeffrey 25-Ton Electric Locomotive hauling a loaded trip over a haul of 2½ miles against 2½ per cent grade.

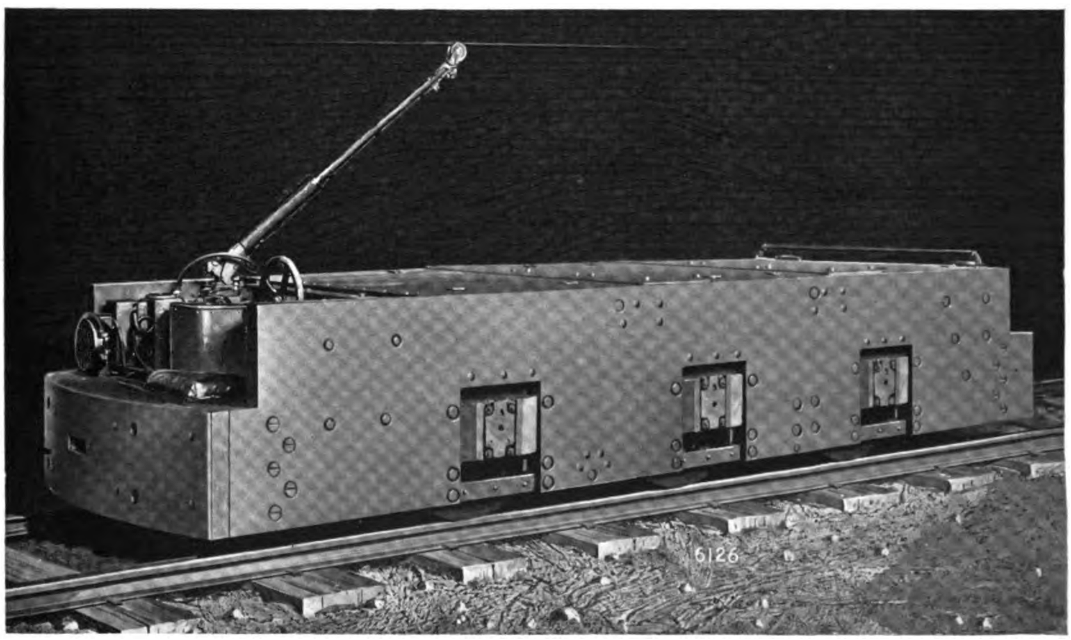


Jeffrey 25-Ton Electric Locomotive hauling trip. Six wheel Locomotives of this design are easy on the track.

Mine Locomotives



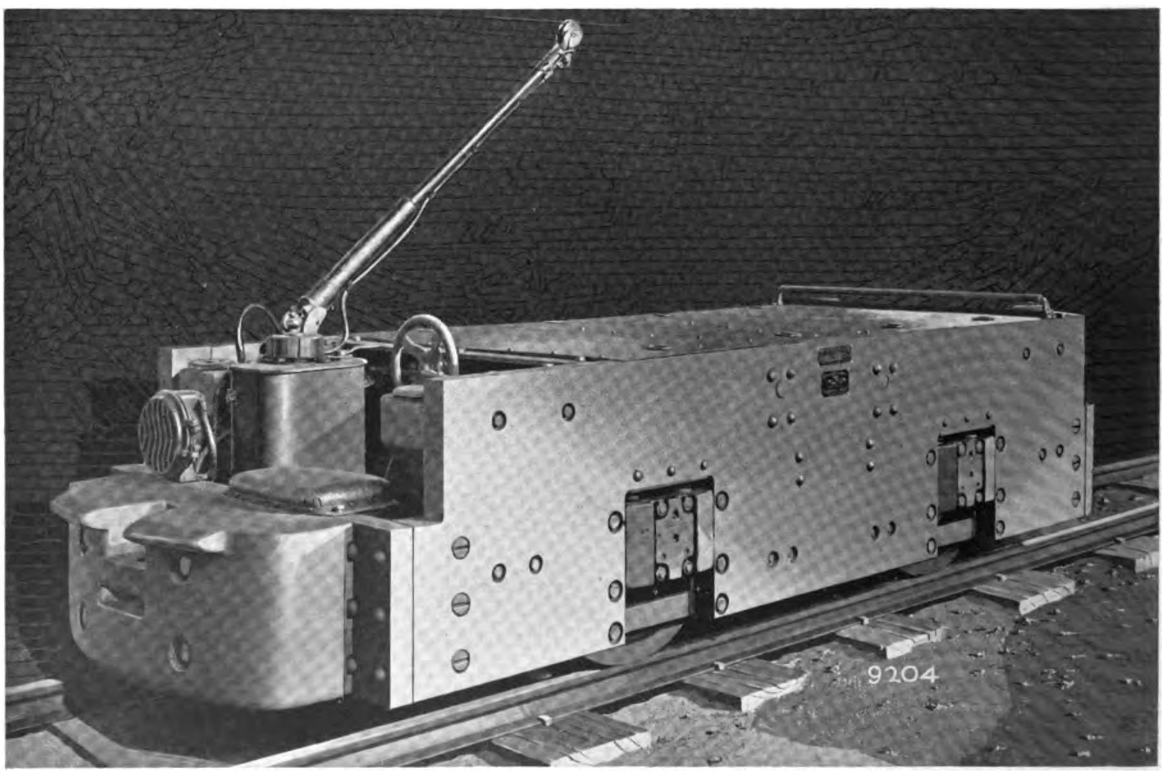
Jeffrey 20-Ton Armorplate Electric Locomotive.



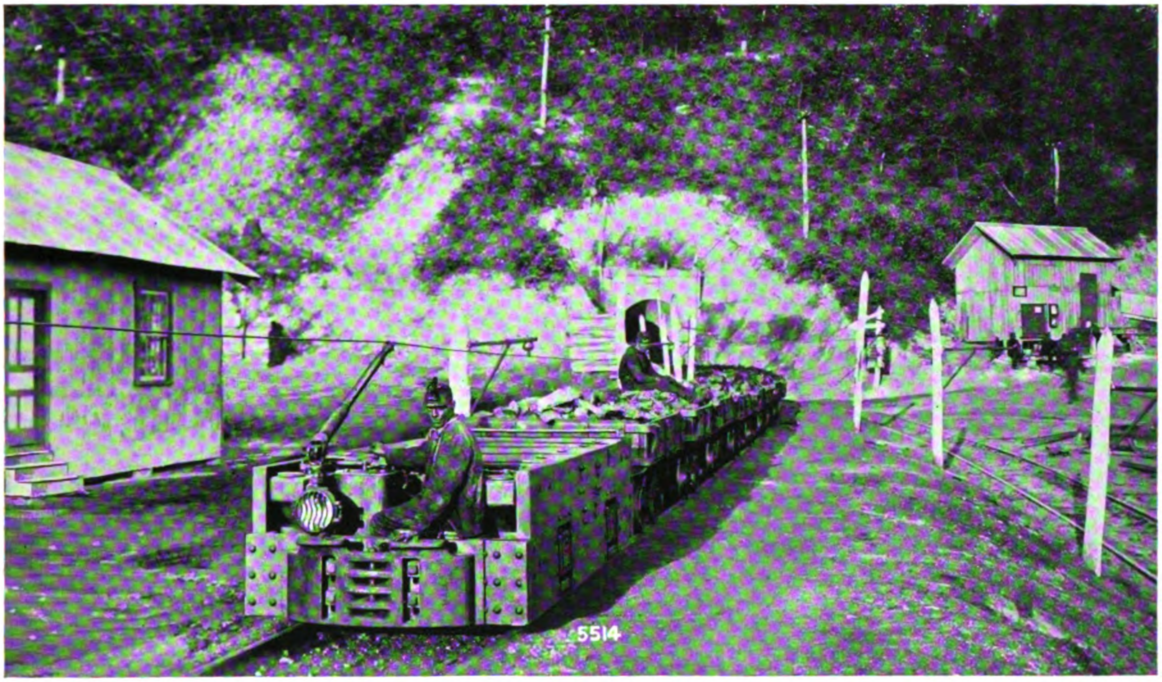
Jeffrey 20-Ton Armorplate Electric Locomotive.

Mine Locomotives

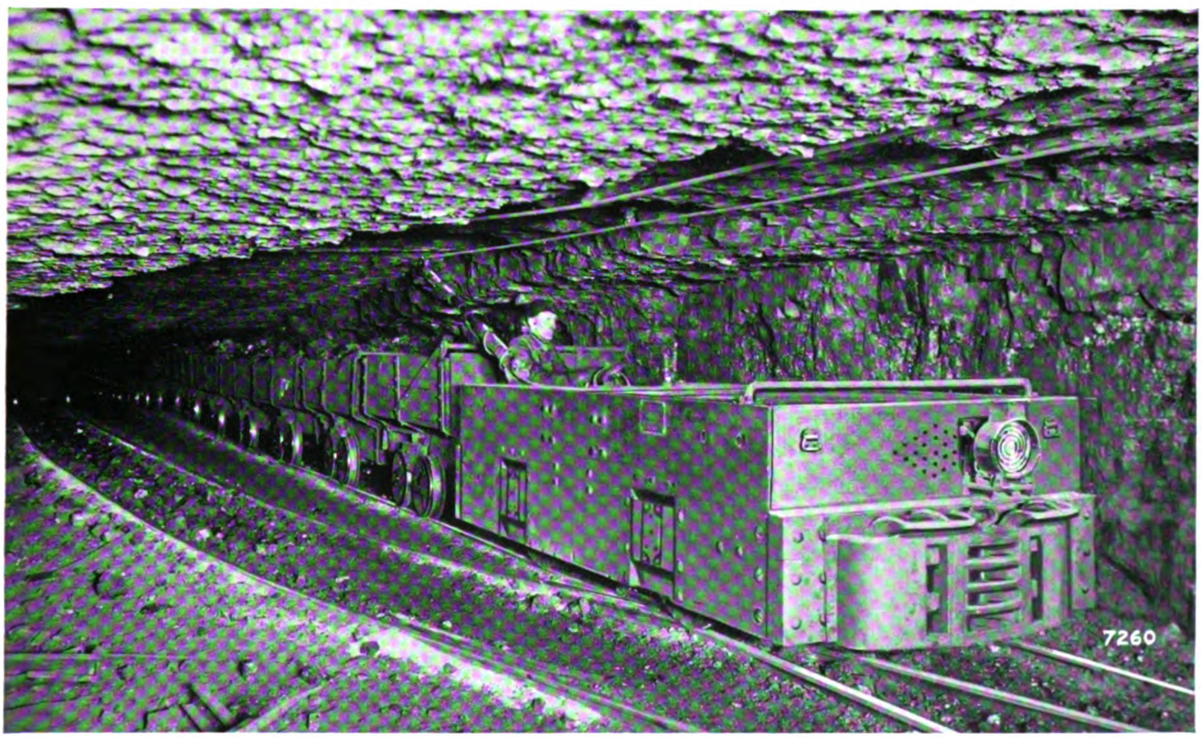
Jeffrey 15-Ton Armorplate Electric Locomotive with Double End Control.



Jeffrey 15-Ton Armorplate Electric Locomotive.

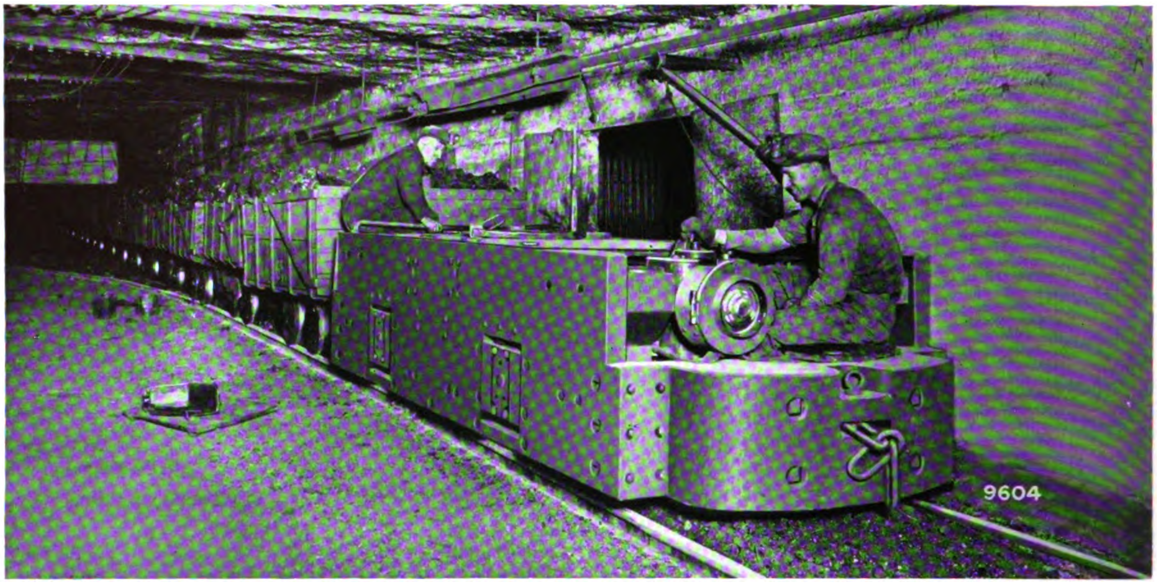


Jeffrey 13-Ton Armorplate Electric Locomotive Hauling Loaded Trip.



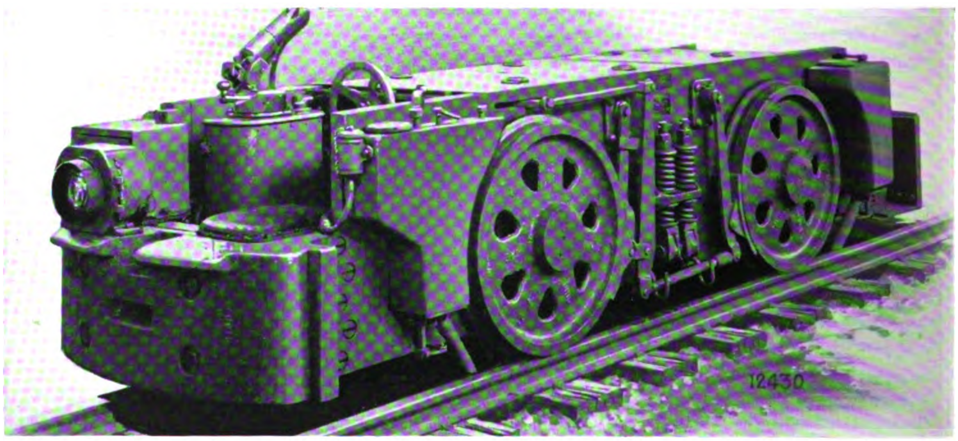
Jeffrey 13-Ton Armorplate Electric Locomotive.

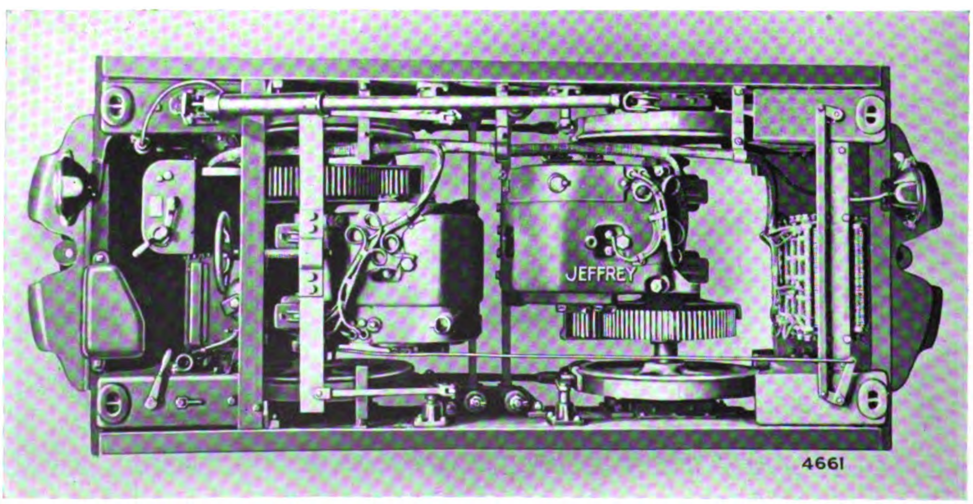
Mine Locomotives



Jeffrey 10-Ton Armorplate Electric Locomotive.

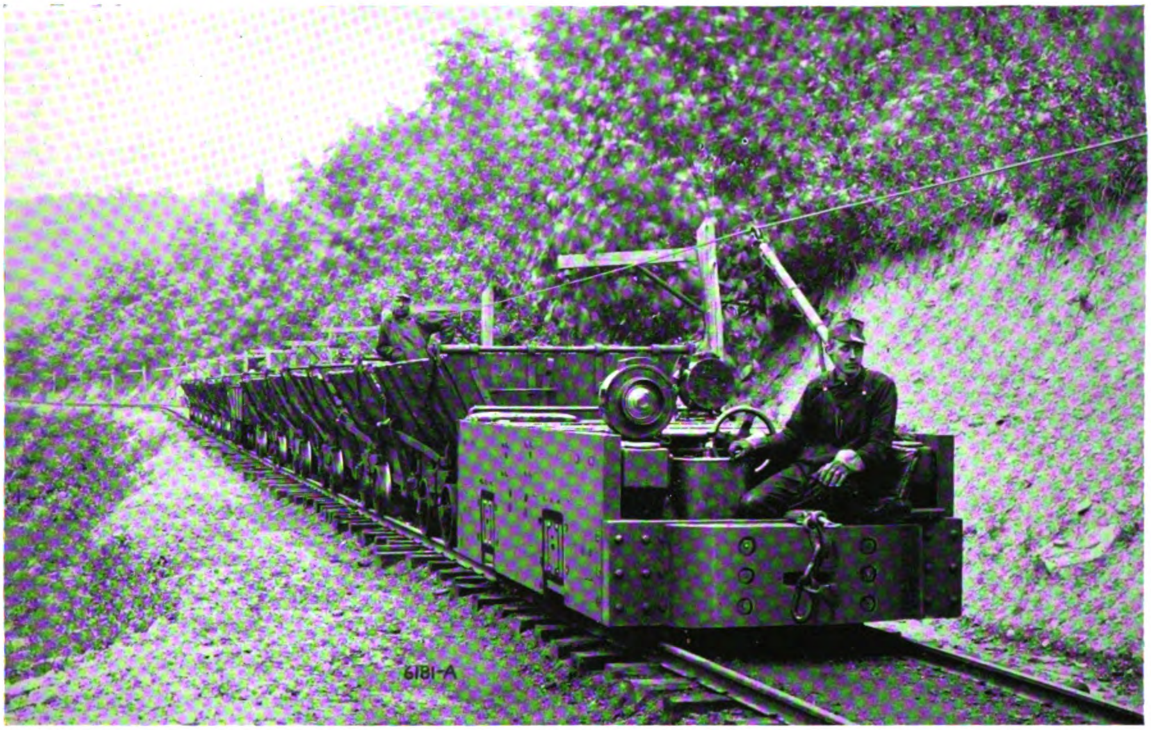
Jeffrey 10-Ton Armorplate Electric Locomotive—outside wheel type.



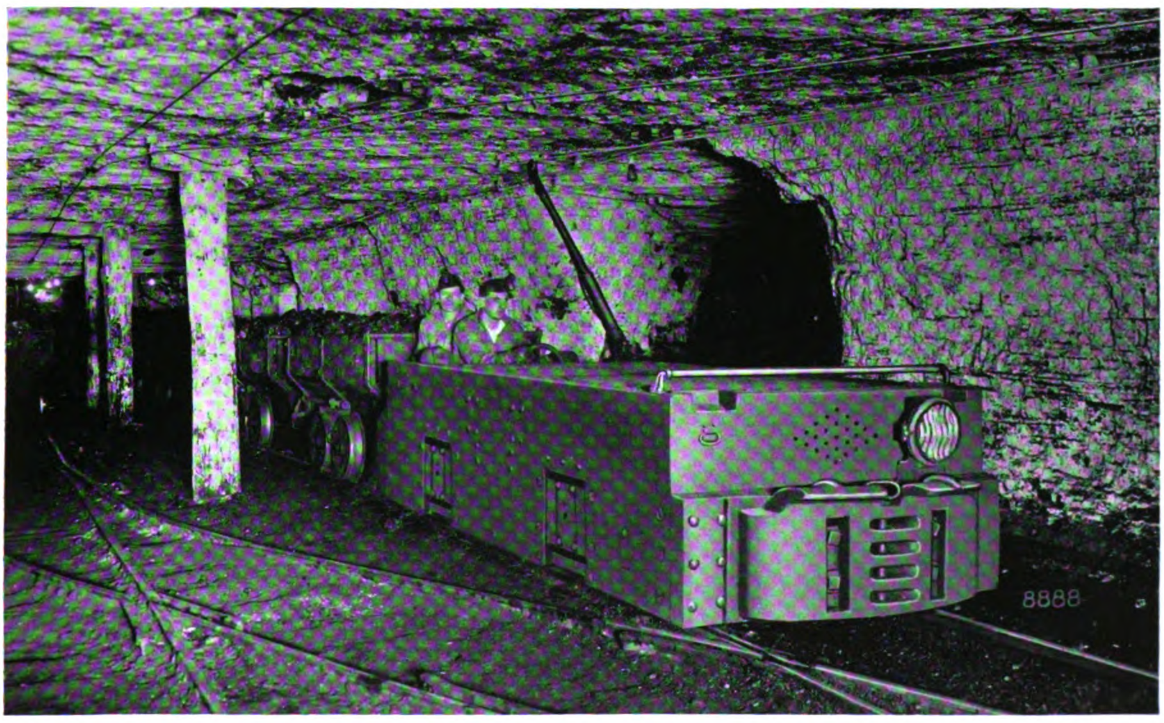


Showing the accessibility of the motors, controller resistance and brake mechanism. The top half of the gear cases have been removed without disturbing any other part. The wheels and axles can be removed without disturbing the motor suspension.

Mine Locomotives

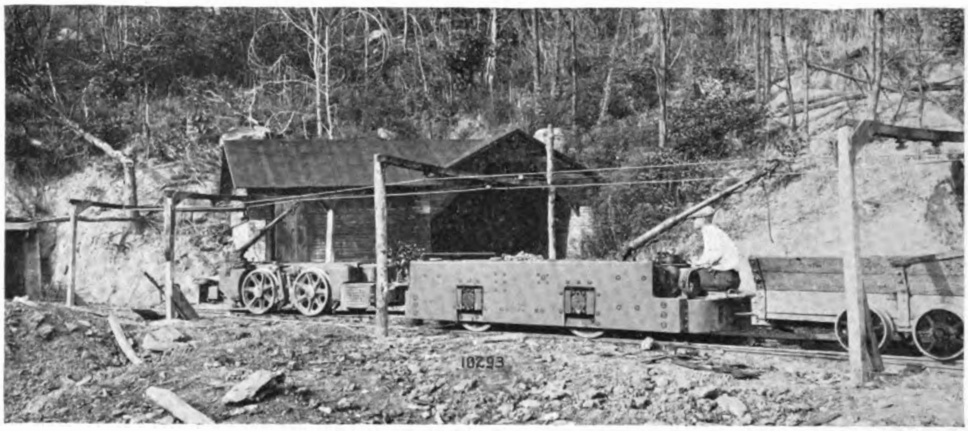


Jeffrey 10-Ton Armorplate Electric Locomotive.

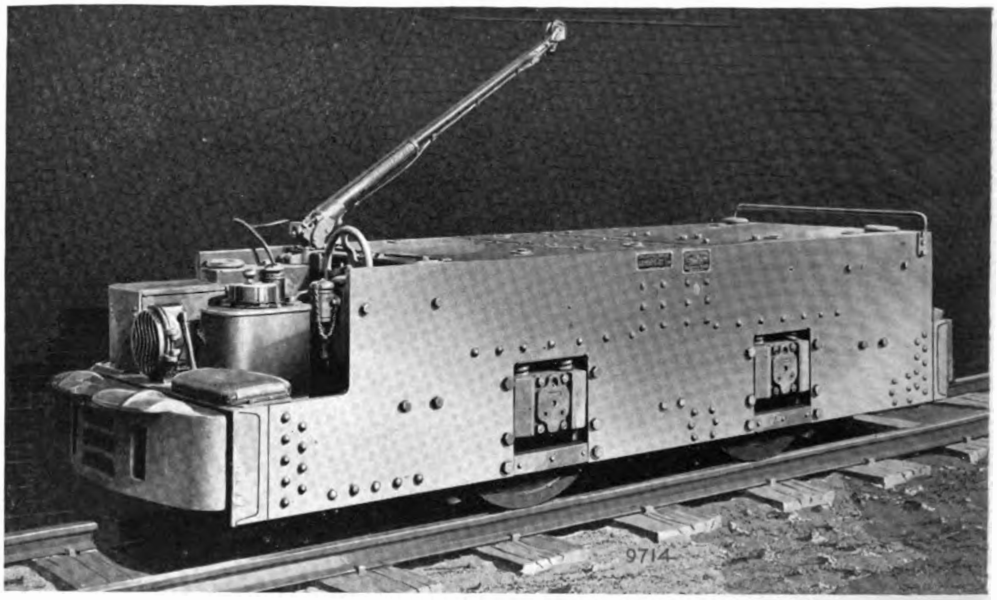


Jeffrey 10-Ton Armorplate Electric Locomotive.

Mine Locomotives

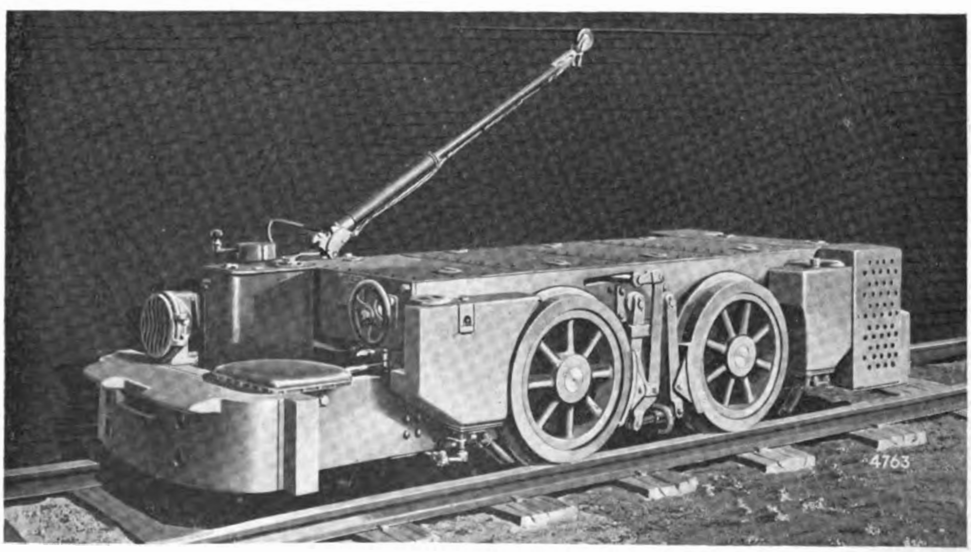


Jeffrey 8-Ton Armorplate Electric Locomotive.



Jeffrey 8-Ton Armorplate Electric Locomotive.

Inside Wheel Type.

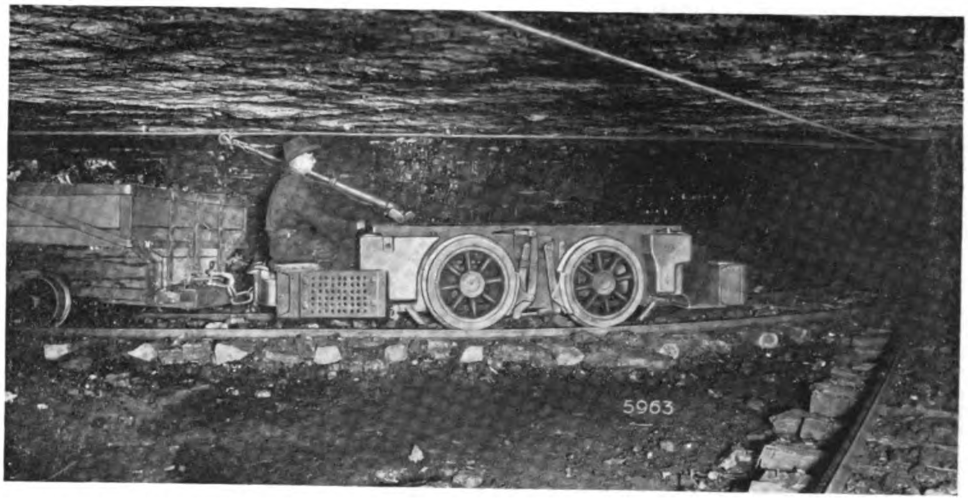


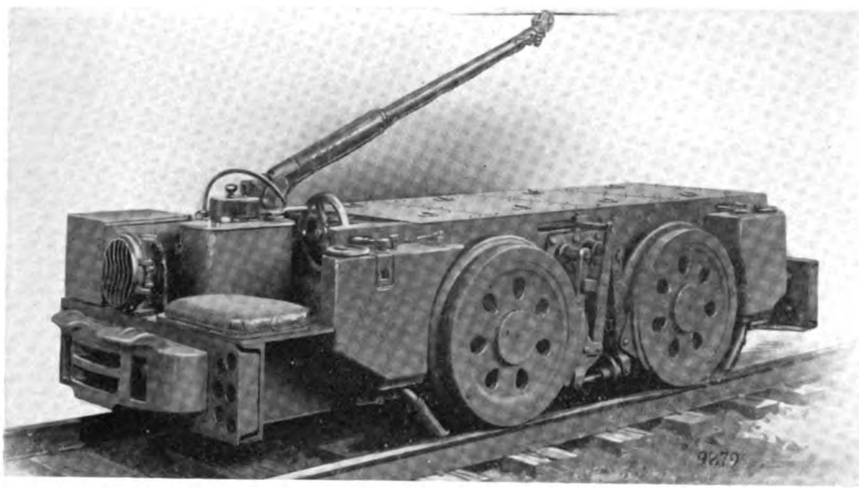
Jeffrey 8-Ton Armorplate Electric Locomotive.

Outside Wheel Type.

Mine Locomotives

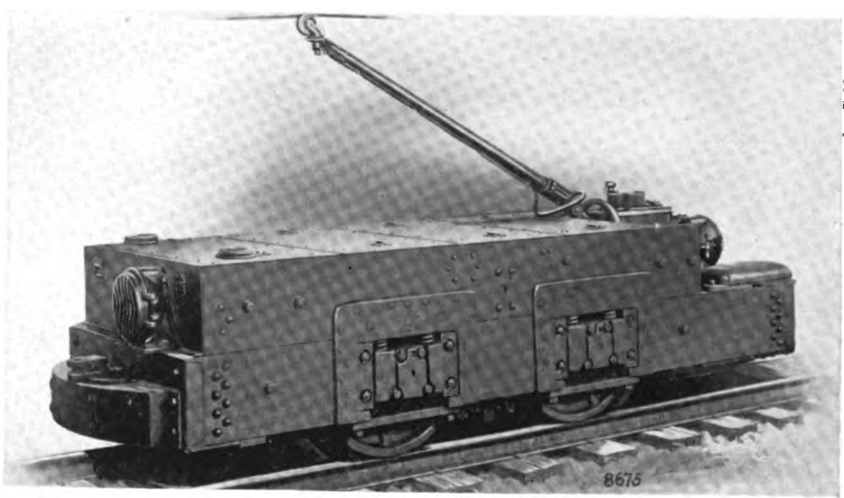
Jeffrey 6-Ton Electric Haulage Locomotive.





Jeffrey 6-Ton Electric Haulage Locomotive.

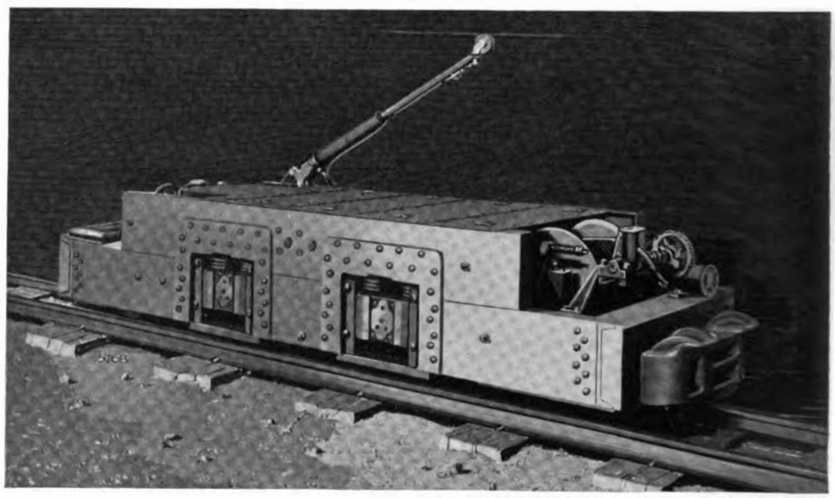
Jeffrey 4-Ton Electric Haulage Locomotive.

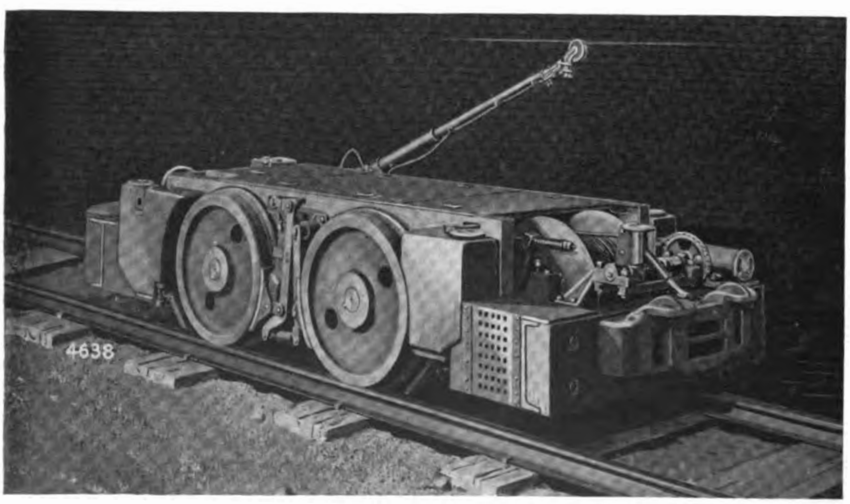


Mine Locomotives

Jeffrey Electric Cable Reel Locomotive.

Jeffrey Electric Cable Reel Locomotives can be equipped with either motor driven or mechanically driven Cable Reel.

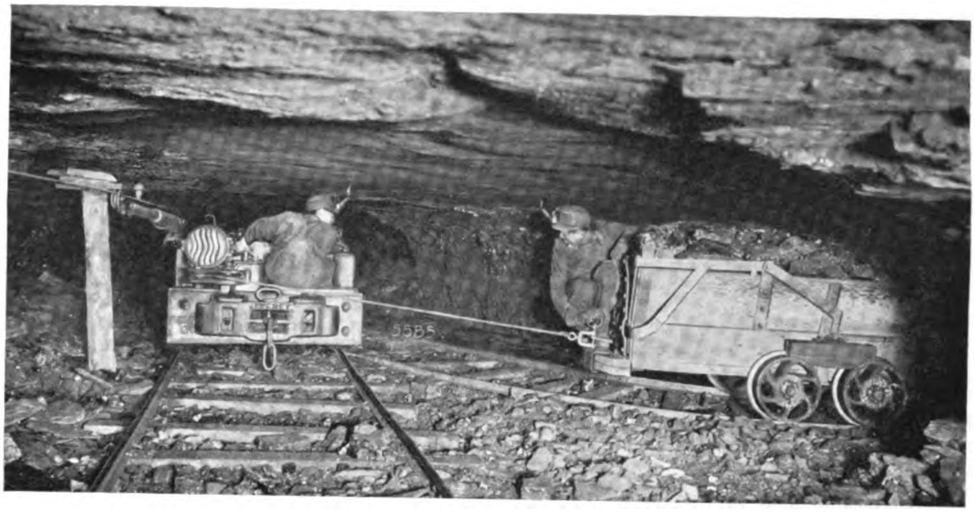




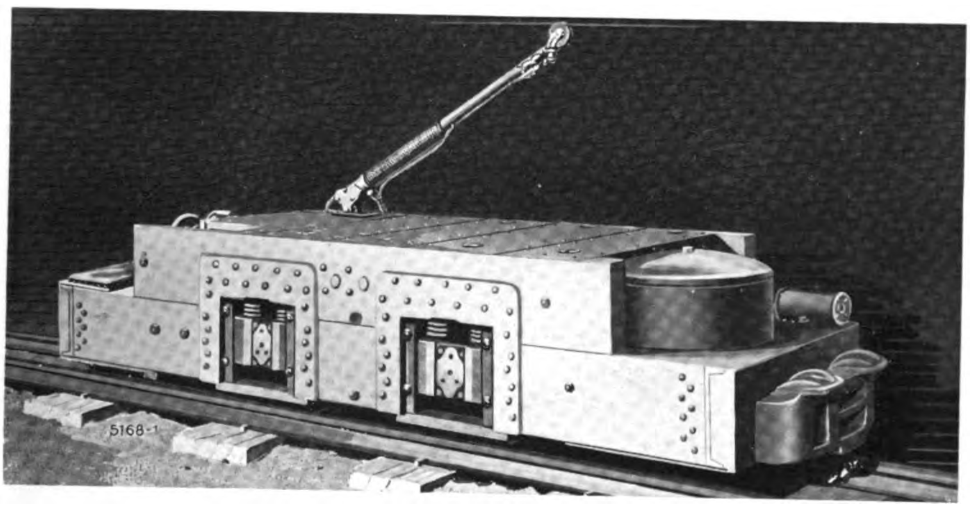
Jeffrey Cable Reel Type Locomotive for operating in rooms of mine where it is not practical to use trolley wires.

Built in sizes 4, 6 and 8 Tons.

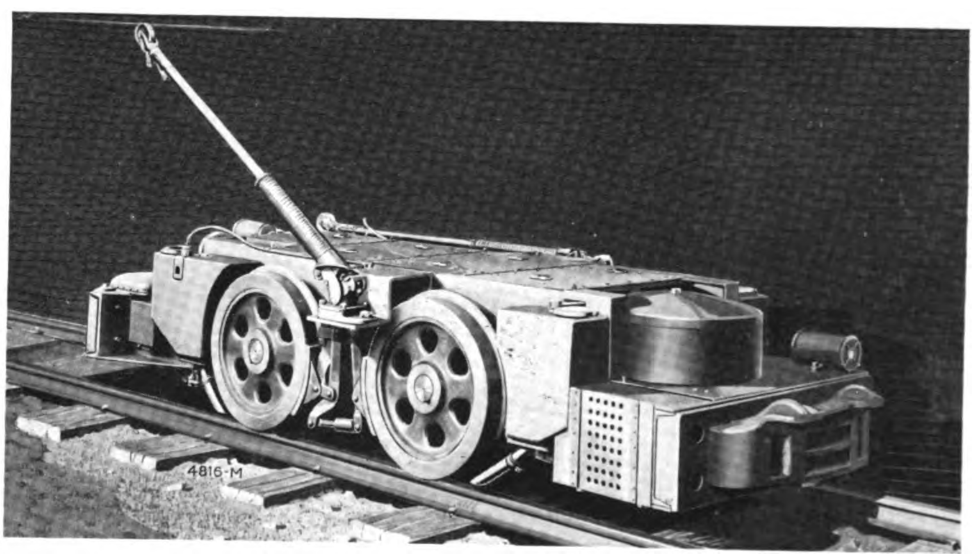
Mine Locomotives



Jeffrey 6-Ton Electric Crab Locomotive pulling a loaded car out of a room, using the crab device.

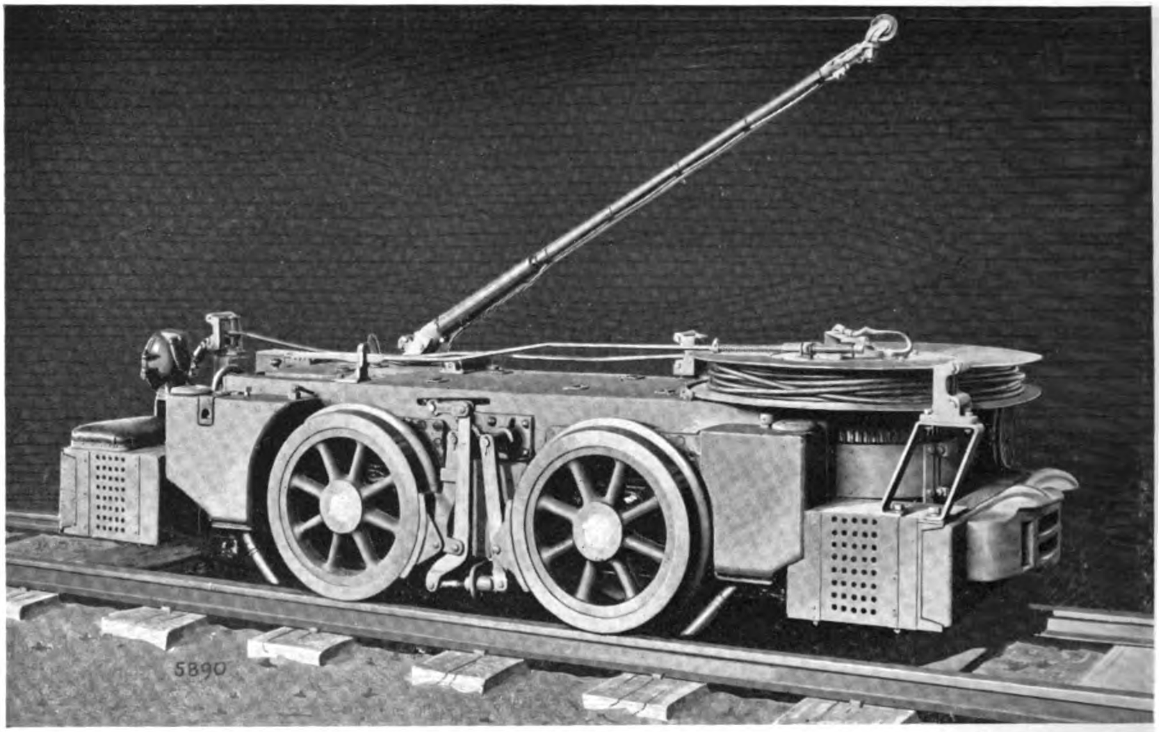


Jeffrey Electric Crab Locomotive. Built in sizes 4, 6 and 8 Tons.

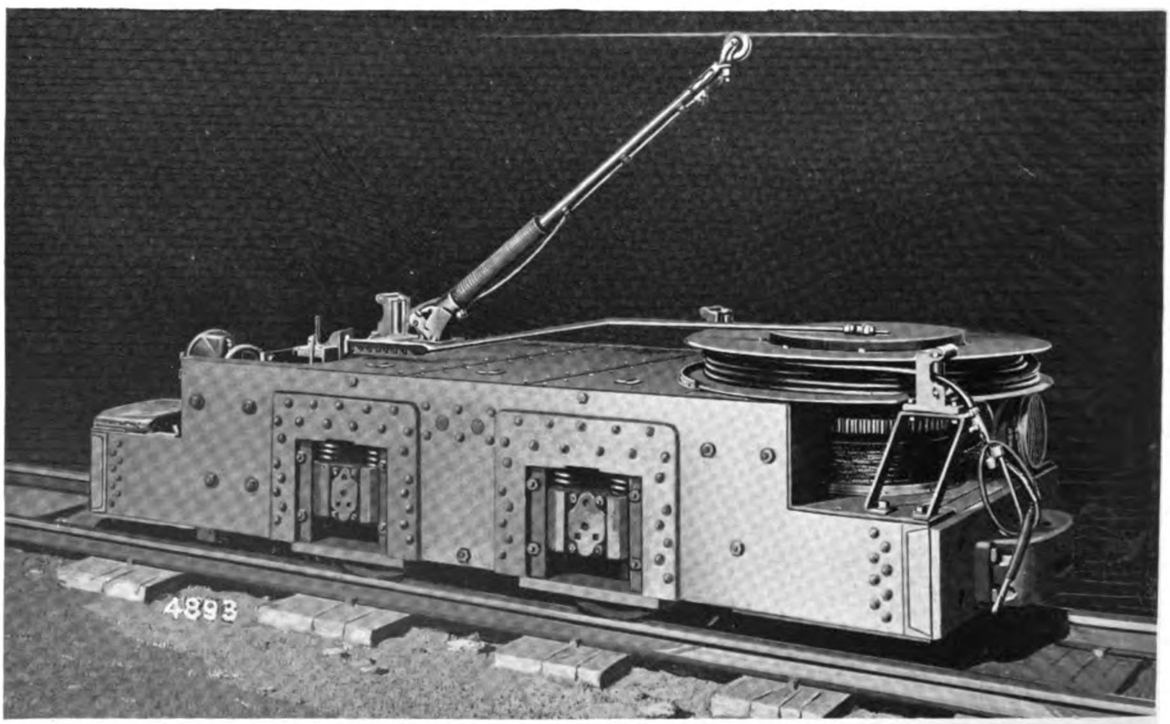


Jeffrey 4 or 6-Ton Electric Crab Locomotive.

Mine Locomotives

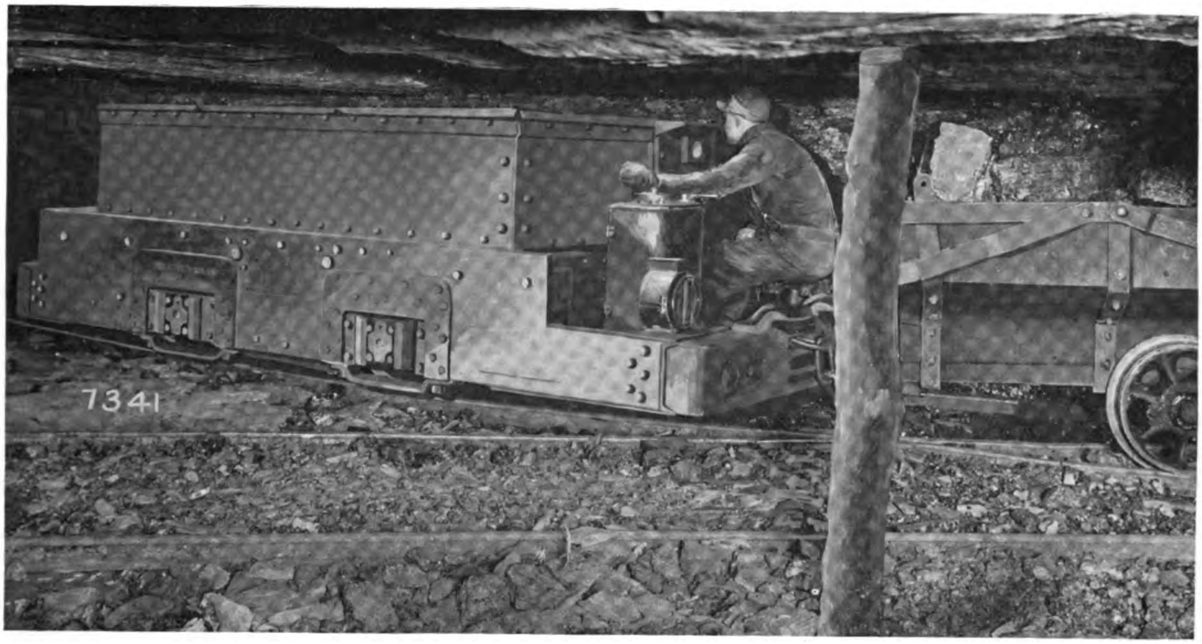


**Jeffrey Electric Combination Crab and Cable Reel Locomotive (Outside Wheel Type)
Built in Sizes 4, 6 and 8-Tons.**

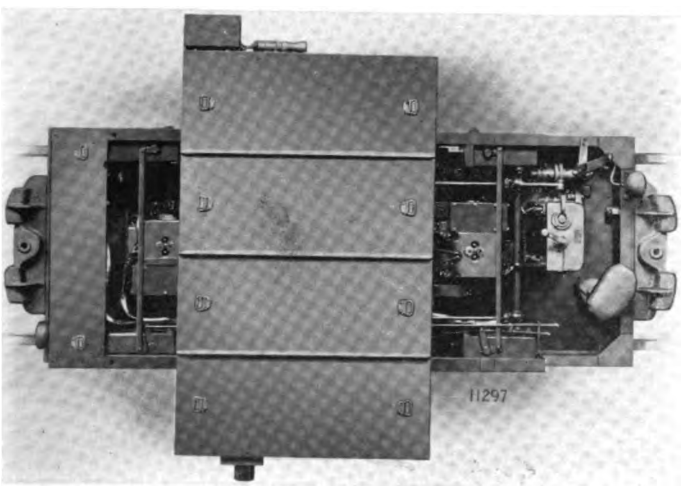


**Jeffrey Electric Combination Crab and Cable Reel Locomotive (Inside Wheel Type)
Built in Sizes 4, 6 and 8-Tons.**

Mine Locomotives



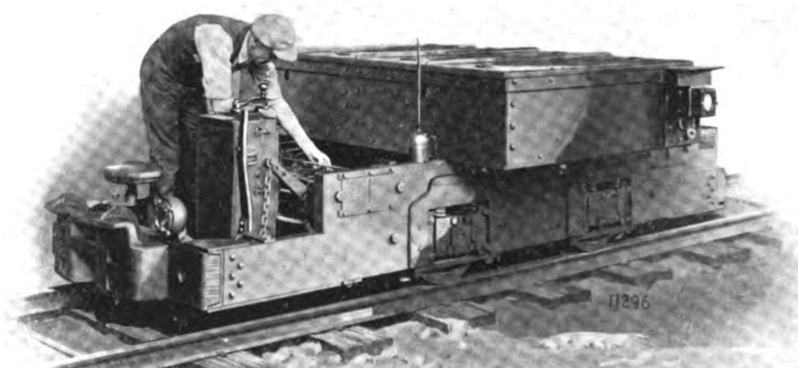
Jeffrey Storage Battery Locomotive Gathering Loaded Cars from Face of Working Place. Battery either Edison or Lead.



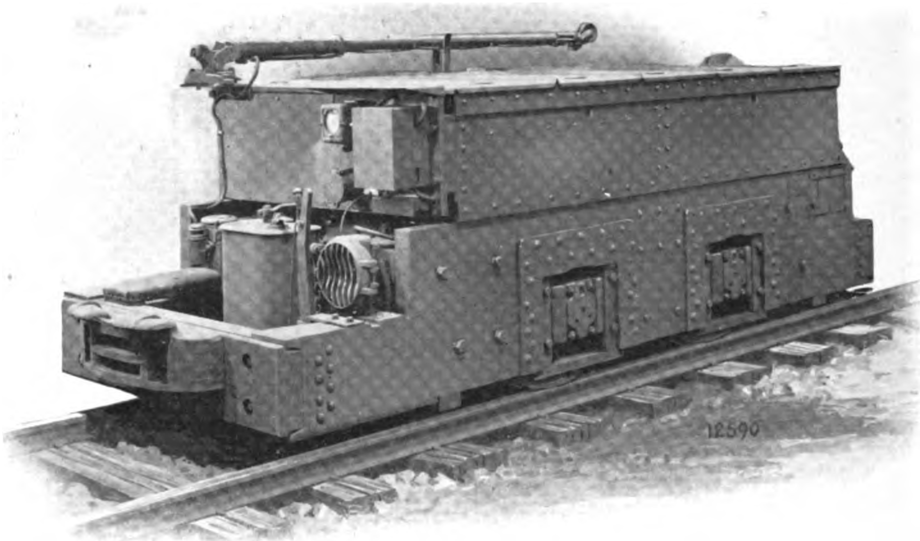
The view at left shows Pivoted Battery Box and Accessible Motor Equipment of Jeffrey Storage Battery Locomotive.

Built in 6,000 lb., 8,000 lb. and 10,000 lb. Chassis. Battery Capacity up to 56 kilowatt hours.

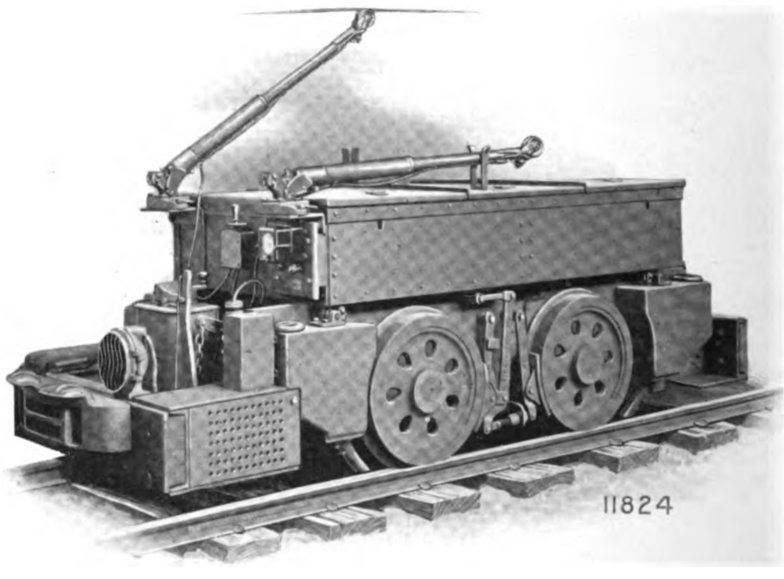
Jeffrey Storage Battery Locomotive with Pivoted Battery Box. Inside Wheel Type. Equipped with either Lead or Edison Battery.



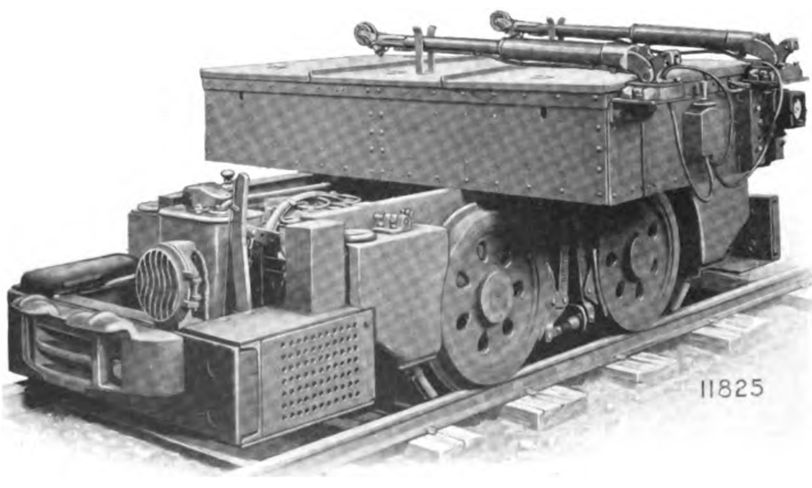
Mine Locomotives



Combination Trolley and Battery Locomotive. 12,000 lb. chassis, equipped with 250-V Haulage motors.

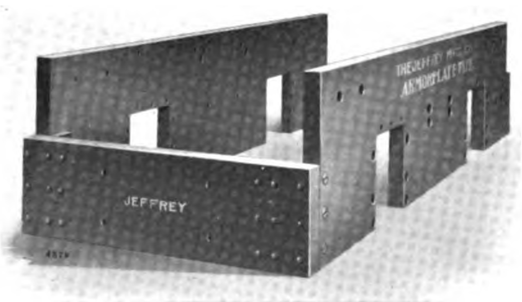


Combination Trolley and Battery Locomotive, 8,000 lb. chassis.

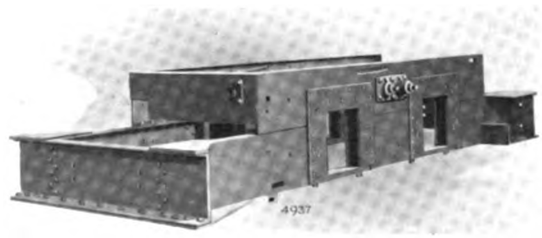


Combination Trolley and Battery Locomotive, Battery Box swung on pivot making motors accessible.

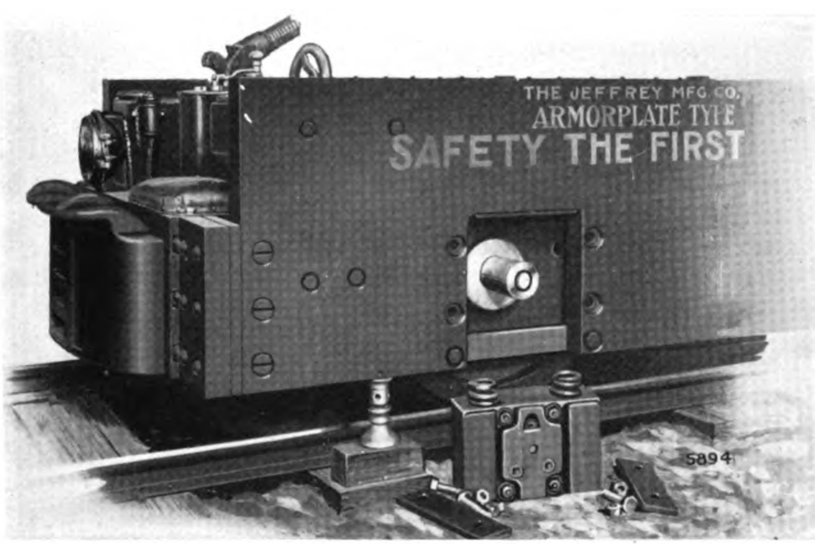
Mine Locomotives



Armorplate frame allows the greatest per cent of weight to be used for motor equipment for a given weight of Locomotive. This type of Frame is used for Locomotives 8-Tons and up.



Structural Steel Frame for 4 and 6-Ton Haulage and Gathering Locomotives.

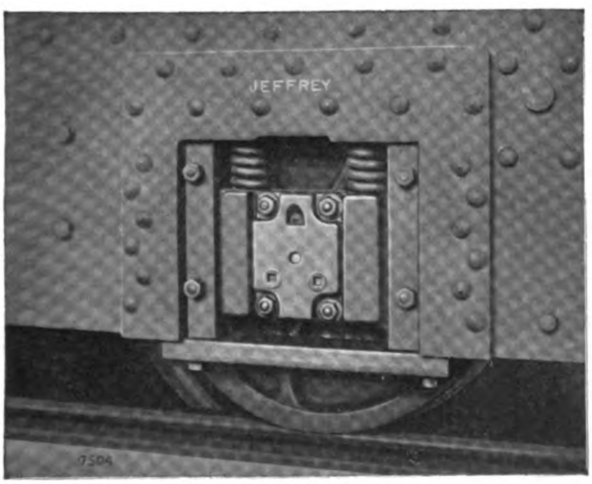


Showing Method of Removing Journal Boxes.

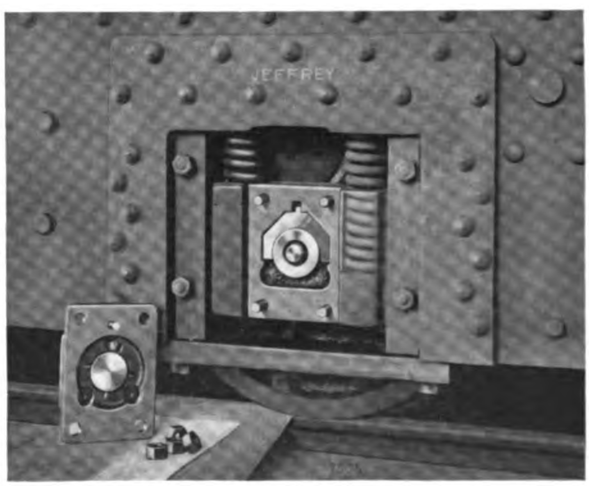
THE illustration at left shows the method of removing the journal box of an inside wheel type of locomotive. The frame is jacked up to remove the weight from the journal springs. The guide plates on either side of the journal box are removed and the journal box lifted out as shown.

The end thrust of the axles is taken by a hardened pin in the end of the axle and hardened plate in the lid of the journal box.

Renewable journal box guides take the wear off the frame. The journal box has renewable wearing plates on all parts where it comes in contact with the journal box guides.

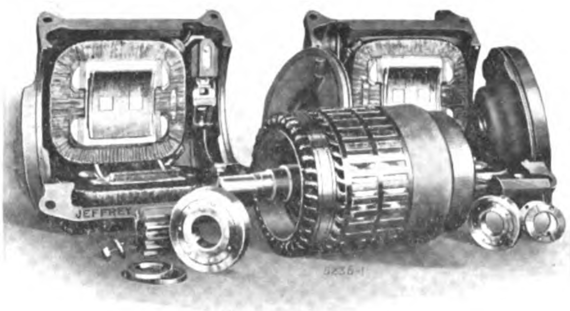


New style Jeffrey Locomotive Journal Box.



Journal Box with lid removed.

Mine Locomotives



Jeffrey 40 Horse Power Ball Bearing Motor showing Ball Bearings removed from the Armature Shafts.

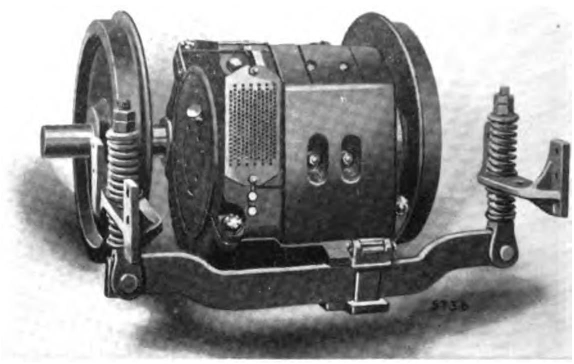
TO meet the demand for interpole motors for mine service, Jeffrey Engineers have designed a complete line of these motors with armatures absolutely interchangeable with the armatures of motors not equipped with interpoles.

Jeffrey Standard Locomotives are equipped with motors of such capacity that the slipping point of the wheels is reached below the normal rated horse-power of the motors.

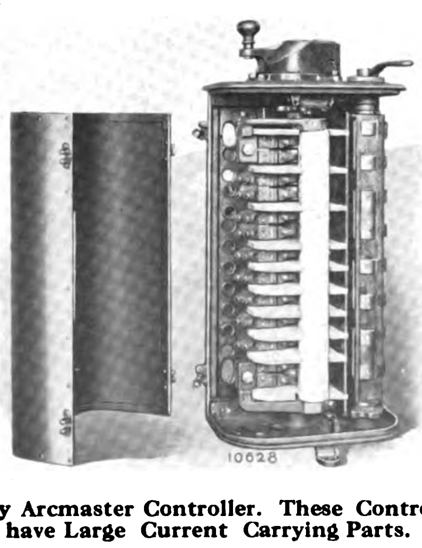
The large capacity motors used on the Standard line of Jeffrey Locomotives have enabled them to give a motor performance which cannot be improved by the application of interpoles. We believe, frankly, that where a motor can be obtained which will give sparkless commutation and carry heavy overloads without the complication of auxiliary windings and the necessary connections, that the non-interpole motor should be recommended.

Three Point Suspension

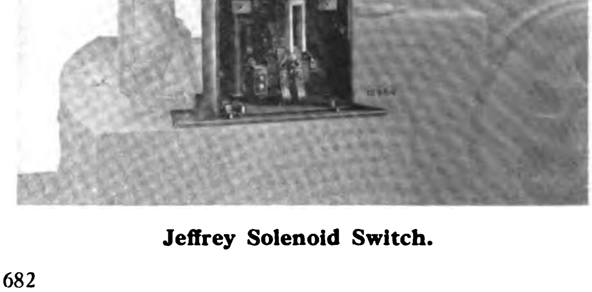
The Motor suspension shown at right is used on locomotives from 10 to 25 Tons inclusive. This construction provides a three point suspension. The motor nose rocks on the suspension bar which has springs above and below its point of support.



To eliminate the punishment of the fingers and contacts on the controller drum, the "Arcmaster" and a solenoid switch have been added to the Jeffrey standard controller. The Arcmaster is mounted on top of the standard controller, and takes the place of the controller handle. The solenoid switch is mounted in a convenient place on the locomotive outside the controller casing. The "Arcmaster" controls the electric circuit of the operating coil in the solenoid switch. A movement of the "Arcmaster" handle to operate the controller, for starting, first closes the solenoid switch which closes contact between the controller and the trolley. A reverse movement of the "Arcmaster" handle to throw the controller off, first opens the solenoid switch, and the controller drum is then thrown to the off position without breaking any current.

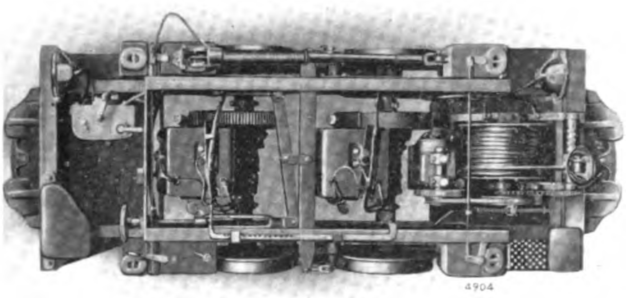


Jeffrey Arcmaster Controller. These Controllers have Large Current Carrying Parts.

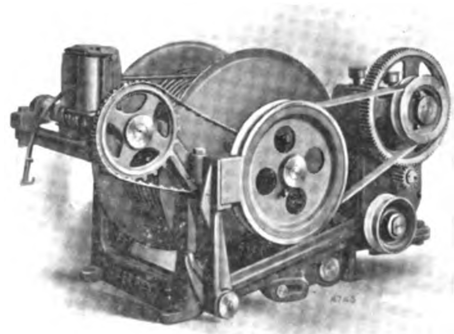


Jeffrey Solenoid Switch.

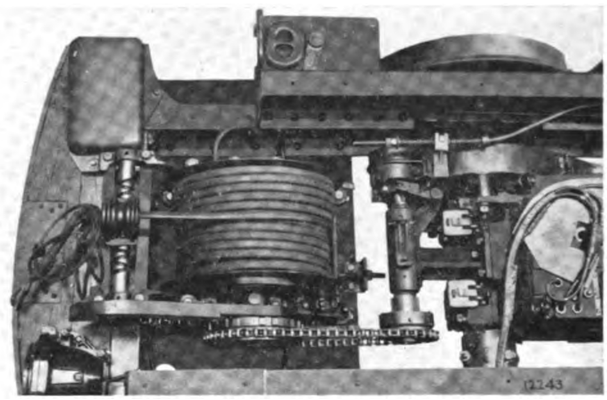
Mine Locomotives



Top view of 4-Ton Cable Reel Locomotive with Motor Driven Reel.



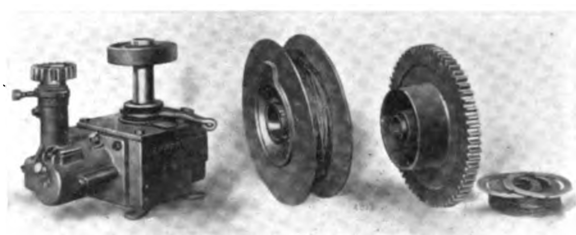
Standard Motor Driven Cable Reel.



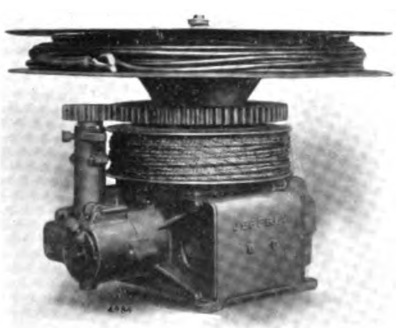
Top view of Mechanically Driven Cable Reel. Driven by Roller Chain from intermediate shaft on one of the Locomotive Motors.

Standard Crab Device

THE Standard Gathering Locomotive is arranged to receive standard equipment and the Crab Device, Cable Reel or Combination Crab and Cable Reel can be fitted into standard locomotives without necessitating any very expensive changes. These devices are located on the floor plate in the front end of the locomotive. The Crab and Cable Reel do not increase the overall height of the locomotive, which is 30 inches. The combination Crab and Cable Reel, however, increases the height about 7 inches.



Details of an Electric Crab Reel.



Combination Crab and Cable Reel Device.

The Standard Crab as shown in the two illustrations is independently driven by a ball bearing motor. Between the drum and gearing to the motor is a disc clutch which acts as a safety slip when the tension in the steel rope becomes too great. The drum is mounted on a stationary vertical shaft on ball bearings. The drum revolves free on these ball bearings when the rope is pulled off. This device will go into the same place on the standard locomotive as the electric cable reel.

Mining Machines

Various Types of Jeffrey Coal Mining Machines

Shortwall

Used in room and pillar work where it is preferable to undercut the coal. Two machines are listed; the 35-A and 35-B.

The 35-A machine can be supplied with a motor for 250 and 500 volts, for direct current only.

The 35-B machine can be supplied with a 250 or 500 volt direct current or an air motor.

The machine can be equipped with alternating current motor for 220 to 440 volts, 60 cycles, and 200, 400, 250 or 500 volts 50 cycle circuits.

Arcwall

Used in room and pillar work where it is desired to cut out dirt bands, or to cut close to the roof, or in case of very thick seams, cut in the center to facilitate shooting.

The Arcwall machine can be equipped with a 250 or 500 volt direct current motor, or an alternating current motor for 220 to 440 volt 60 cycle, and 200, 400, 250 and 500 volts 50 cycle circuits.

Breast Type

This type was the first practical undercutting machine made. It is gradually being superseded by Shortwall machines. The breast type machine can be furnished with direct current motor only.

Longwall

Used in Longwall mines; especially designed to occupy a small space, to facilitate placing timbers closer to the face. Also built extremely low for thin seams.

There are two sizes of Longwall machines; the 24-A and 36-A. Each can be equipped with a 250 or 500 volt direct current motor, or air motor.

The 24-A machine can be equipped with an alternating current motor for 200 to 600 volts on 40, 50 and 60 cycle circuits.

The 36-A machine can be equipped with an alternating current motor for 200 to 600 volts on 40, 50 and 60 cycle circuits.

The following information is given to facilitate a rough estimate of the number of machines required for an installation.

For room and pillar work, assuming 12 ft. entries and 24 ft. rooms. The Shortwall machine will cut 8 to 12 places; the Arcwall machine 18 to 24 places; the Breast machine 6 to 8 places, and the Longwall machine 200 to 300 ft. in 8 hours. The above figures are conservative.

The average power consumption for any one machine is 35 watt hours per square foot of undercut for easy cutting, and 50 watt hours per square foot of undercut for hard cutting.

In average cutting a breast machine takes about 60 amperes; a Shortwall, Arcwall or Longwall machine 100 to 125 amperes, on 250 volts.

In making inquiry for coal cutting machines, give the following information:

Height of coal.

Nature of coal (Preferably a cross-section of the seam).

Nature of top.

Nature of bottom.

System of mining, giving width of rooms and entries in case of room and pillar system.

Track Gauge.

Voltage.

Lowest place machine has to pass under while being moved from one place to another.

35-B Shortwall Mining Machine

Jeffrey 35-B Shortwall Coal Cutter cutting across the Face of the Coal.

THE Jeffrey 35-B Shortwall Coal Cutter meets the demand for a simple, rugged, medium weight machine for room and pillar system of mining.

It is simple in design because it contains less gears than any other machine of its kind as single reduction is used between the armature and chain drive sprocket, which eliminates a pair of gears, shaft and bearings.

Equipped with power driven feed and handling drum, the Jeffrey 35-B Shortwall Coal Cutter can be handled with the least effort on the part of the runner.

Easy to Operate

The machine is controlled by two hand-wheels, three levers, and a controller handle, as illustrated. The hand-wheel F starts and stops the handling drum, while hand-wheel D starts and stops the feed drum. Handle A starts and stops the motor and lever B controls the jaw clutch between the main drive and cutter-chain sprocket. Lever G controls pin clutch for the handling drum and lever H controls an eccentric for throwing the feed drum in or out of gear.

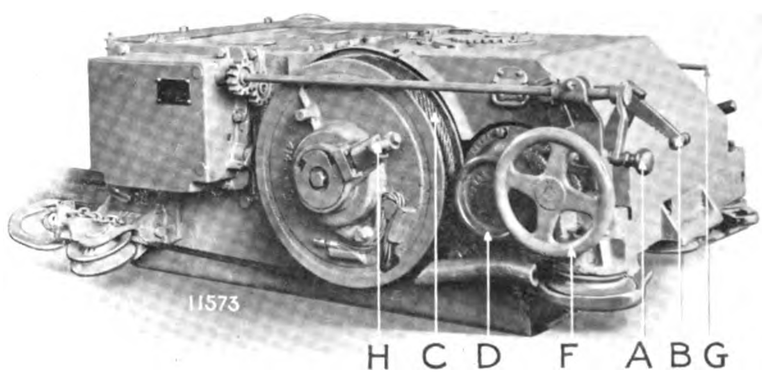


Illustration showing the simple operating mechanism of the Jeffrey 35-B Shortwall Coal Cutter.

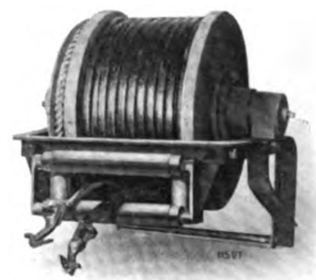
Mining Machines

35-B Shortwall Mining Machine.

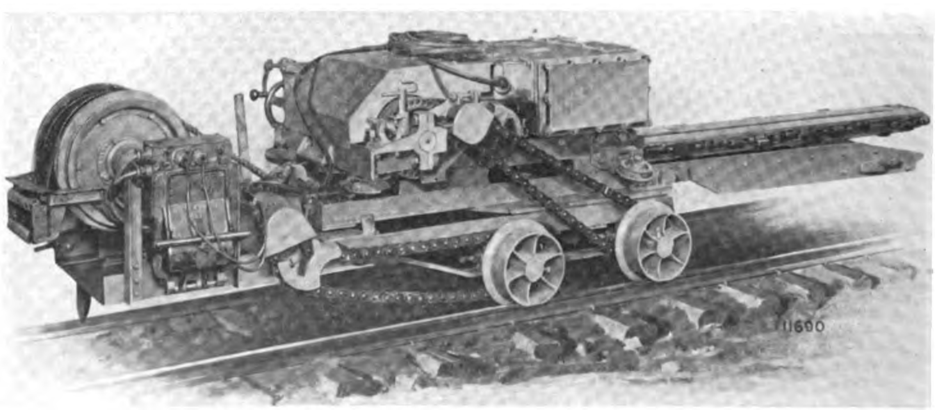
Jeffrey 35-B Shortwall Coal Cutter in operation, working along the face.

A close-up of the Government approval plate on Jeffrey Coal Cutters.

WHEN an equipment has been submitted to the United States Government for test to prove that it can be used in gaseous mines and not cause explosions, and the apparatus is approved, the Government issues an approval plate as illustrated. This plate must appear in a prominent place on the apparatus when sold as a Government Approved Equipment.

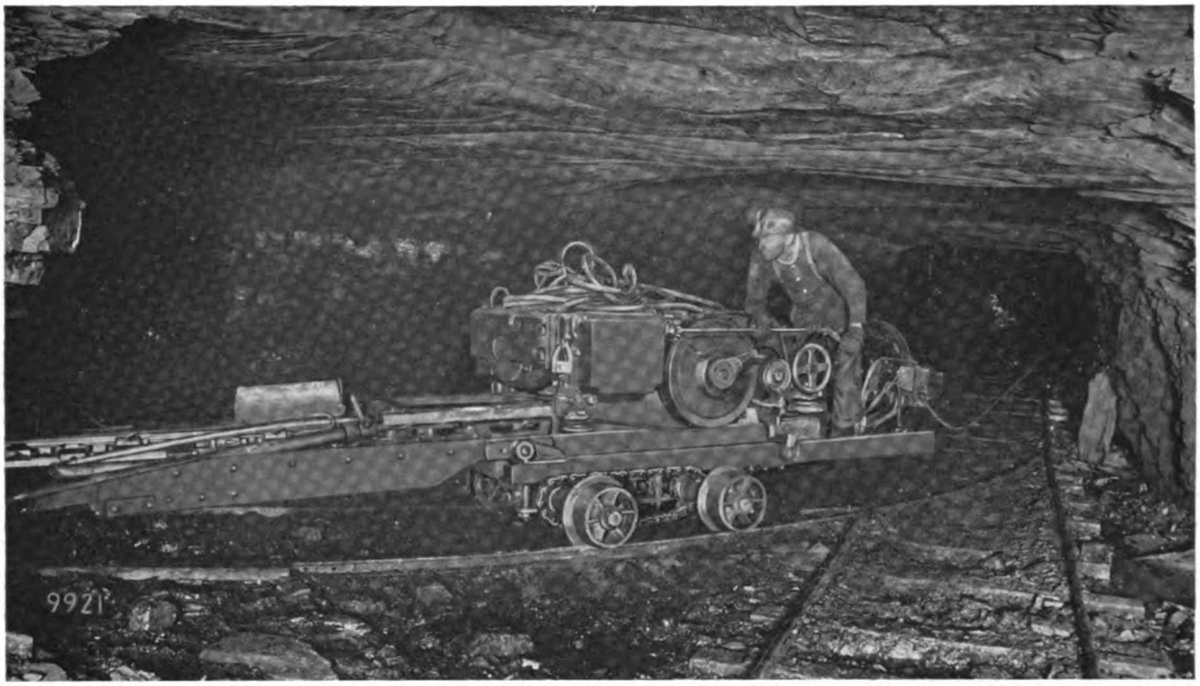


The U. S. Government approved Cable Reel used on Jeffrey 35-B Coal Cutters.



Jeffrey 35-B Shortwall Coal Cutter mounted on Handitruck, with Cable Reel.
U. S. Government approved equipment.

35-B Shortwall Mining Machine

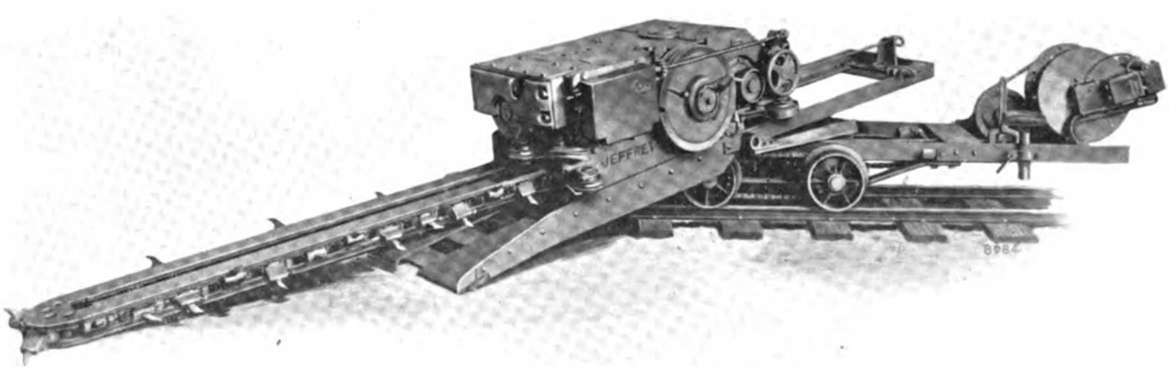


Jeffrey 35-B Shortwall Coal Cutter mounted on its Self-propelling "Handitruck" going into room of mine.

Designed to Protect the Runner

ALL electrical parts of the machine are carefully enclosed to protect the runner, making it impossible for him to come in contact with any live electrical parts.

The cutter bar has been made narrow in width, which makes it easy to control its position when making a cut, and facilitates cutting a rolly bottom and reduces the liability of the cutter bar being caught when the coal squeezes.



Illustrating how easily the Jeffrey 35-B Shortwall Coal Cutter is unloaded from the "Handitruck".

Mining Machines

Self-Propelling "Handitruck"

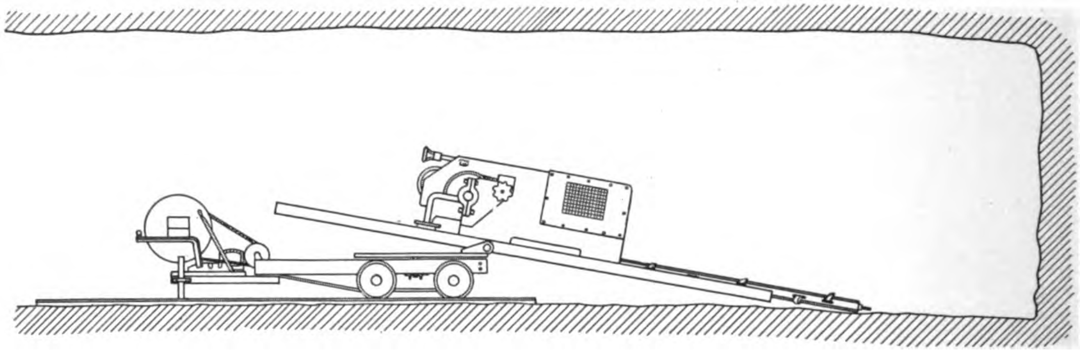
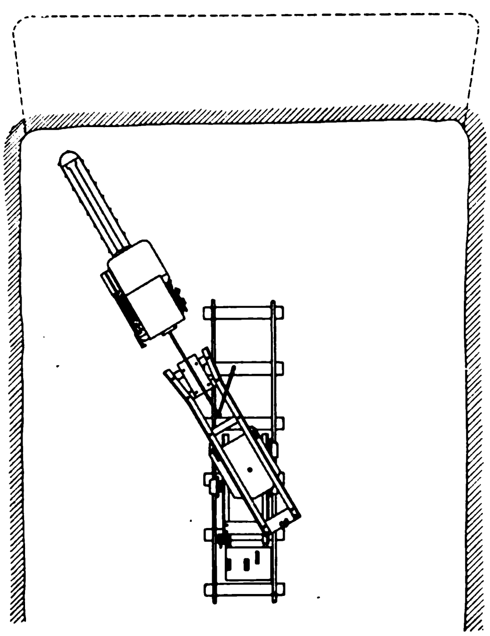


Diagram showing the Jeffrey 35-B Shortwall Coal Cutter being unloaded from Jeffrey Self-propelled "Handitruck".

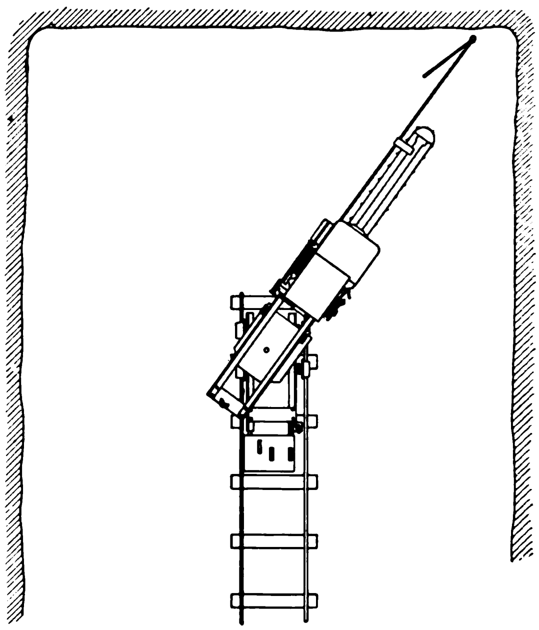
THE Jeffrey Self-propelling "Handitruck" reduces the time required from the finishing of one undercut in a place to the start of another undercut in another place, that is, it reduces the time required in unloading the machine, pulling it into place for cutting, pulling it back on the truck and loading.

The truck is provided with a tilting frame mounted so that it can be turned at any angle to the truck.

Jeffrey "Handitruck" means less labor and more coal.



Loading the machine onto truck by power from corner of room



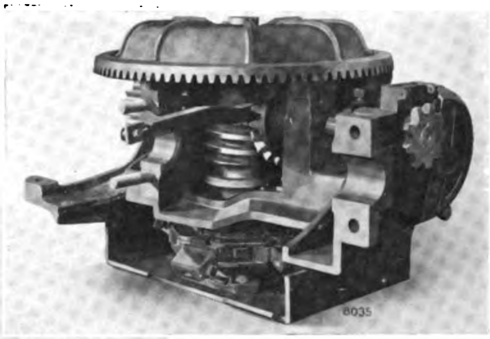
The machine unloaded by power, direct from truck to corner of room.

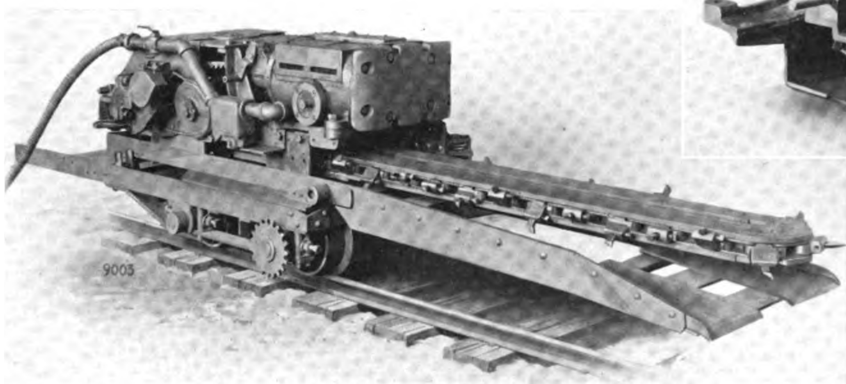
One man can easily turn the machine on the truck to any desired angle. With the "Handitruck" the runner can pick the best spot for unloading and loading the machine. The time saved by use of the "Handitruck" results in the increased number of places cut.

Loading and unloading of the machine where the gob lies close to the face, or where the posts are set close to the face, is greatly facilitated by the "Handitruck". It is also a decided advantage when making break-throughs, as the machine can be unloaded and loaded without interfering with the track and ties.

35-B Shortwall Mining Machine

BELOW is shown a 35-B Coal Cutter equipped with air motor, which will operate on any reasonable air pressure of 40 pounds or above.





The simplified gearing of the Jeffrey 35-B Shortwall Coal Cutter is shown above—contains fewer gears than any other make of Shortwall machine.

The Alternating Current Motor can be supplied for the following circuits: 50 or 60 cycles, 200 to 600 volts, while the Direct Current voltage is 250 to 500 volts.

Dimensions and Weights of Jeffrey 35-B Shortwall Coal Cutters.

Dimensions	Direct Current Machine	Alternating Current Machine	Air Machine
Weight of Machine, lbs.	5000	5000	5000
Weight of Truck, lbs.	2000	2000	2000
Length without cutter-bar	5′ 2″	5′ 5″	6′ 0″
Height over-all	24½″	26½″	25½″
Standard depth of under cut	5′, 6′, 7′	5′, 6′, 7′	5′, 6′, 7′
Height over machine when loaded on standard "Handitruck", 12″ wheels	39″	41″	40″
Height over machine when loaded on Low Vein "Handitruck", 10″ wheels	33″	35″	34″

Export Packing List

One Jeffrey 35-B Shortwall Coal Cutter complete with Truck, Cable Reel and Tools.

Number of Packages	Size of Package	Weight—Lbs. Net	Weight—Lbs. Gross
1	5′ 9″ x 3′ 11½″ x 2′ 6½″	4285	4775
1	46¼″ x 31½″ x 21½″	1090	1240
1	10′ 10½″ x 22″ x 14½″	1565	1880
1	38¼″ x 31″ x 24¼″	385	495
1 loose	11′ 8″ x 3′ 2½″ x 9″	810	810
1 loose	8′ 6¼″ x 2′ 5″ x 8″	490	490

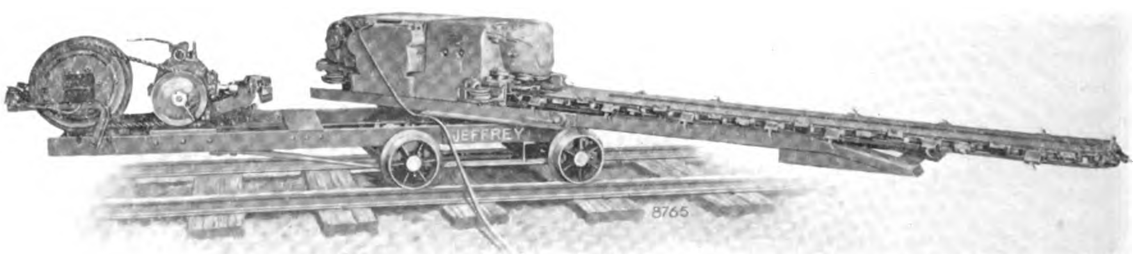
Mining Machines

35-A Shortwall Mining Machine

Jeffrey 35-A Shortwall Coal Cutter in operation, cutting across the face.

THE Jeffrey 35-A Shortwall Coal Cutter is built on the same general principle as the 35-B machine, the main difference being in the size and capacity. It has its application where the cutting is extremely hard, or where the duty requires an especially strong and rugged machine.

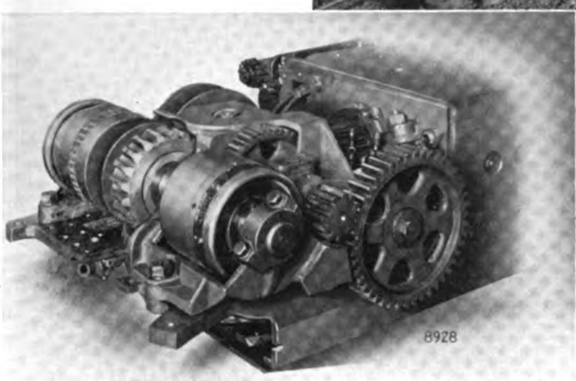
This machine is one of the most powerful, heavy duty coal cutters, being developed to encounter the more severe coal cutting conditions, where a large motor capacity and a very heavy construction throughout is required.



Jeffrey 35-A Shortwall Coal Cutter mounted on its Self-propelling "Handitruck."

35-A Shortwall Mining Machine

Another view of the Jeffrey 35-A Shortwall Coal Cutter in operation cutting across the face.



Gearing of the 35-A Shortwall Coal Cutter.

THE main features of the Jeffrey 35-A Shortwall Coal Cutter are: large capacity, totally enclosed motor, heavy gearing and shafting, multiple disc clutches on the feed and handling mechanism and power driven retarding drum, the latter being independent of the feed mechanism.

Dimensions and Weights of Jeffrey 35-A Shortwall Coal Cutter.

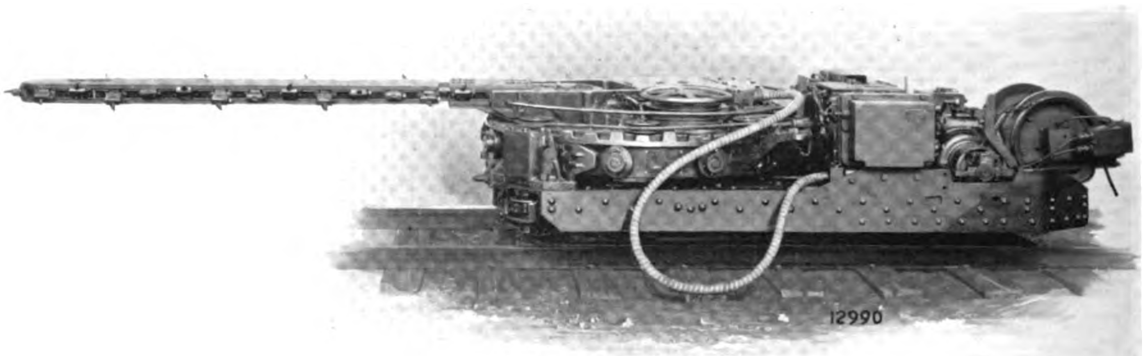
Dimensions	Direct Current only
Weight of machine	6200 pounds
Weight of truck	2000 pounds
Length without cutter-bar	64 inches
Height over all	22 inches
Standard depth of under cut	5′, 6′, 7′
Height over machine when loaded on truck (12″ wheels)	37 inches

Export Packing List

One Jeffrey 35-A Shortwall Coal Cutter complete with Truck, Cable Reel and Tools.

Number of Packages	Size of Package	Weight—Lbs.	
		Net	Gross
1	5′ 10″ x 3′ 10″ x 2′ 4½″	4635	5135
1	46½″ x 32½″ x 22″	1100	1265
1	10′ 10½″ x 22″ x 14½″	1565	1880
1	38¼″ x 31″ x 24¼″	385	495
1 loose	11′ 8″ x 3′ 2½″ x 18″	1000	1000
1 loose	8′ 6¼″ x 2′ 5″ x 8″	490	490

29-C Arcwall Mining Machine



Low Type of Jeffrey 29-C Machine.

THE Jeffrey 29-C "ARCWALL" Coal Cutters were developed primarily for cutting out a binder in coal seams, which lie in the coal any place between the bottom and the roof. However, the machine is not limited to this duty alone, as it is very useful in thick, clean coal for cutting in the middle of the seam.

Runners of Jeffrey "ARCWALL" Machines are enabled to do very rapid work, as the machine is mounted permanently on the self-propelling truck and is never unloaded.

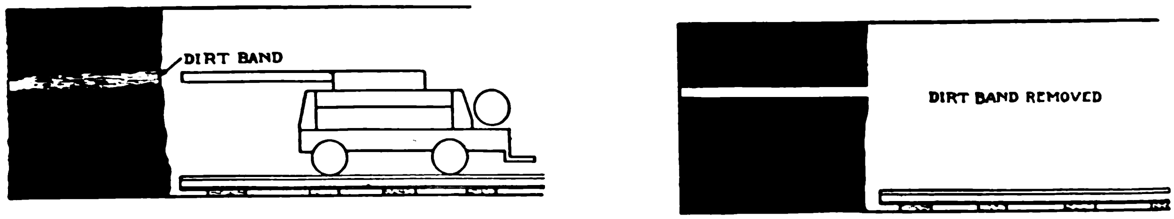


Diagram showing the Arcwall method of cutting coal.

29-C Arcwall Mining Machine

Drawing Room Pillars—Slabbing Cut in Slate Seam with Jeffrey Arcwall Mining Machine.

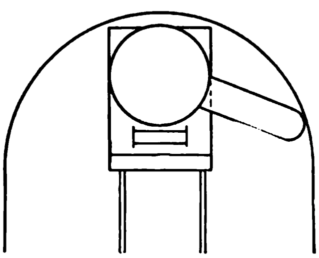


Fig. 1

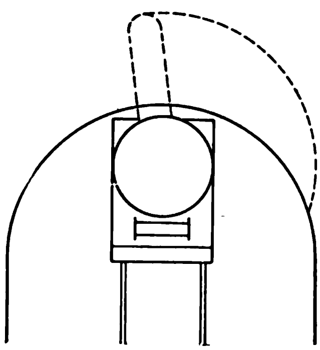


Fig. 2

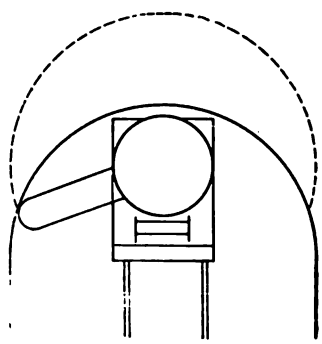
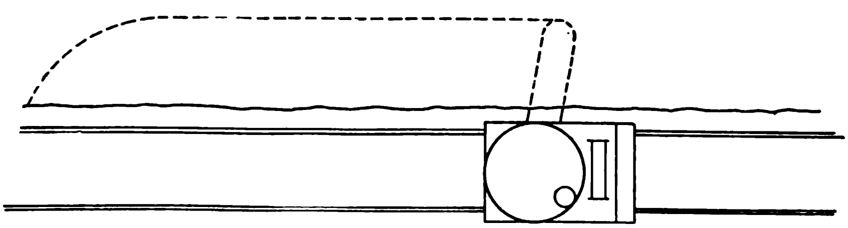


Fig. 3

The Cutter Bar of the "ARCWALL" Coal Cutter swings in any arc when cutting rooms or entries. Figures 1, 2 and 3 above, show how the cutter bar swings in an arc to cut a room.



This diagram shows how the cutter bar is swung into the coal and machine fed along the rib when slabbing.

Mining Machines

29-C Arcwall Mining Machine

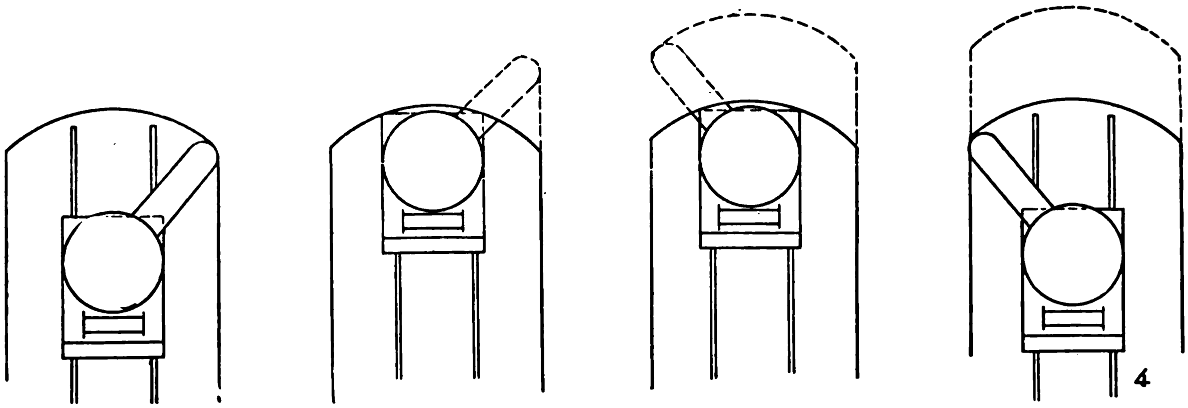


Figure 1 **Figure 2** **Figure 3** **Figure 4**

Fig. 1 Cutter bar locked in position for sumping.

Fig. 2 Cutter bar has been sumped by means of the truck motor. There is a gear transmission which provides two speeds; one for traveling from one place to another, and the other for sumping.

Fig. 3 The cutter bar is shown as having cut across the face. The cutter bar is mounted on a turn-table which is rotated by means of a steel rope wound on a drum provided with a disc clutch. The disc clutch acts as a safety device for the machine, as it slips in case the bits encounter a substance that cannot be cut.

Fig. 4 The machine has been withdrawn by means of the slow propelling speed, and the cut is finished.

Before moving, the cutter bar is returned to the central position by swinging the turn-table. It can then be raised and lowered as may be required, into a desirable traveling position. This is accomplished by switching the gears in the gear box on the truck.

Dimensions of 29-C Arcwall Coal Cutter

Direct Current Motor and Straight Cutter Bar.

Overall width of machine including sumping sheaves.......70"
Overall width of machine without sumping sheaves.......63¼"
Wheel base.......36"
Length of machine excluding cutter bar.......9'-7"
Made for gauges from 30" to 56½" inclusive.

Standard undercut with straight cutter bar	6 ft.	7 ft.	8 ft.	9 ft.
Distance from center of machine to end of straight cutter bar	9 ft.	10 ft.	11 ft.	12 ft.
*Standard undercut with offset cutter bar	6 ft.	7 ft.	....	....
Distance from center of machine to end of offset cutter bar	11 ft.	14 ft.	....	....

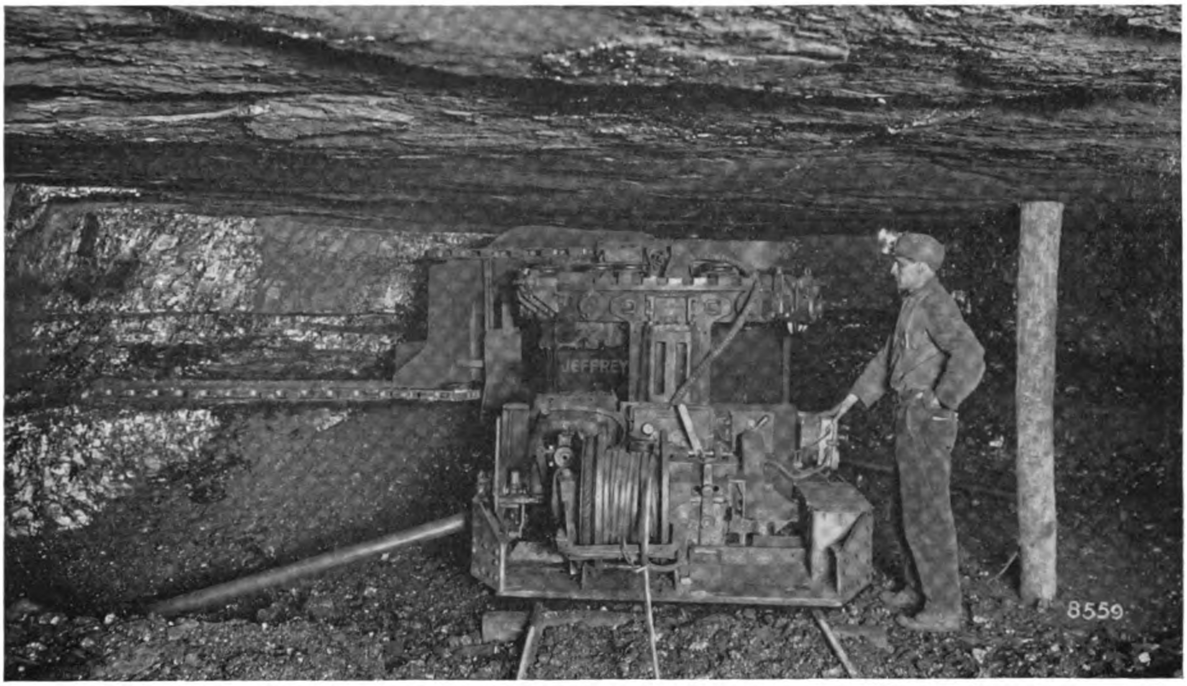
Thickness of kerf 5½"

The 29-C Arcwall machine is built in various heights to accommodate higher or lower seams. Each machine has an adjustment up and down. In the higher machine it is possible to obtain greater adjustment than in the lower ones. Below is given a table of the height with cutter bar in lowest and highest position above the track for the five standard heights of machine, also the height overall in the lowest position.

Minimum height above rail to bottom of kerf	46"	38½"	32"	26½"	24½"
Maximum height above rail to bottom of kerf	71½"	57½"	43"	34½"	30½"
Height overall cutter bar in lowest position	53½"	46"	39½"	33¾"	31¾"
Height overall with chain guard removed	51½"	44"	37½"	32"	30"

*Offset cutter bars are made with various offsets down and up, specifications of which will be supplied on request.

29-C Arcwall Mining Machine

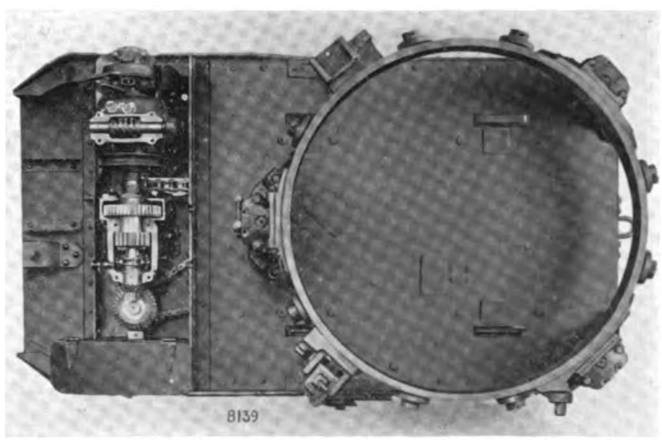


Offset Cutter Bars can be furnished to bring the cutter bar at any height in the coal seam.

THE truck used with the Arcwall machine is as important in its details of construction as the machine itself. The truck is provided with an independent motor, and a gear shift which gives two speeds to the truck; the fast speed for propelling from place to place, and a slow speed for sumping. Another position on the gear shift allows the machine to be raised and lowered. A disc clutch between the motor and the gearing provides a means of controlling the propelling speed and protects the gearing in case the machine is raised or lowered to the limits of the adjusting screws.

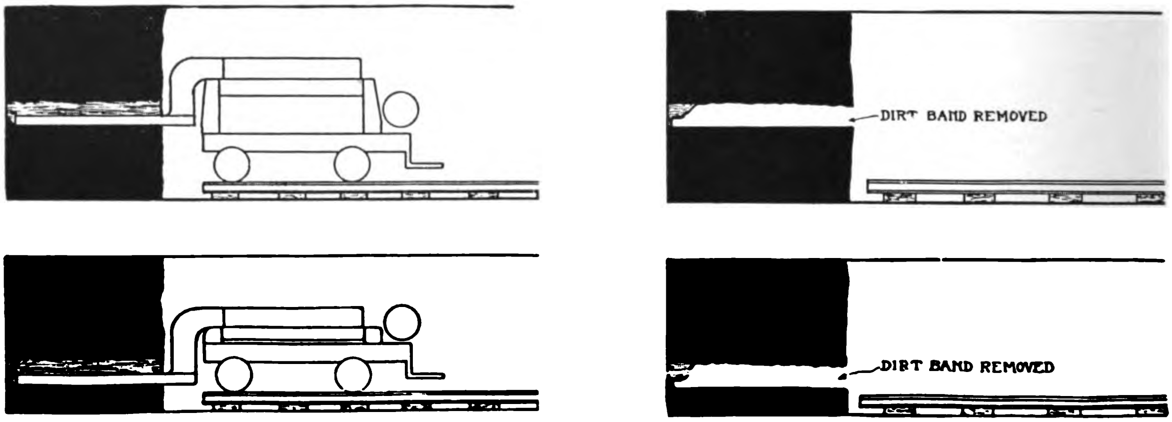
The truck is provided with a powerful band brake controlled by the same lever which operates the disc clutch.

At the right is shown the top of the truck with machine and truck motor removed. The top of the gear case is also removed showing the gearing.



Mining Machines

29-C Arcwall Mining Machine



Jeffrey Arcwall Coal Cutter is built to cut anywhere between the top and bottom of the coal seam and is adjustable while in operation to an irregular binder.

COAL cut with the "ARCWALL" machine shoots better, and the roof is not injured as it would be if the coal was simply undercut at the bottom.

Cutting out Bone or Binder greatly reduces picking of Coal and assures cleaner coal from pit car to shipping car.

No time is wasted in loading or unloading the "ARCWALL" Coal Cutter. It is a self-contained and self-propelled rapid cutter for room or entry work. Machine runners prefer this type of machine because it makes working conditions easier.

Export Packing List

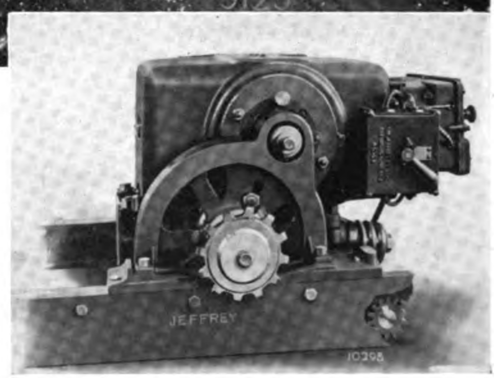
One Jeffrey 29-C Arcwall Coal Cutter complete with truck and tools.

Number of Packages	Size of Package	Weight—Lbs.	
		Net	Gross
1	9′ 10¼″ x 3′ 6″ x 26¼″	6500	7200
1	5′ 11″ x 5′ 11½″ x 30¼″	4500	5100
1	5′ 9½″ x 6′ x 16″	1425	1785
1	3′ 11¼″ x 28½″ x 22¼″	480	600
1	27¾″ x 21½″ x 22½″	525	595
1	30¼″ x 30½″ x 29″	275	400
1 loose	10′ 2″ x 5′ 5¼″ x 13″	2075	2075

Mining Machines

19-A Breast Type Mining Machine

Jeffrey 19-A Breast Type Coal Cutter in operation.



Enclosed motor equipment used on Jeffrey 19-A Coal Cutter.

THE Jeffrey 19-A Breast Type Coal Cutter is designed and recommended for places where the hardest cutting is encountered.

Standard feed is 14½" per minute and the pull-back speed is 8 ft. per minute.

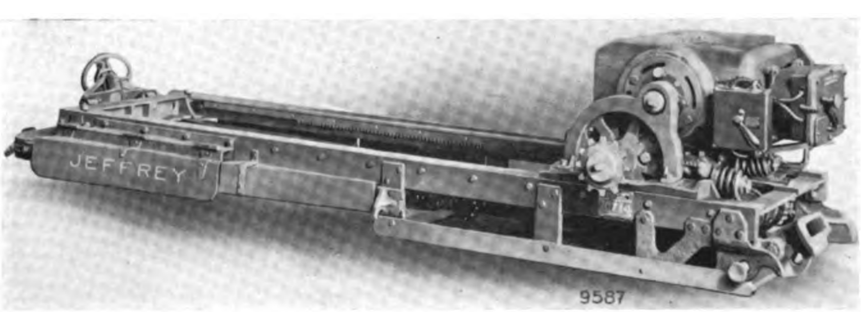
General Dimensions and Weights

Length of Cutter Bar, 5, 6 and 7 ft.
Height overall, 30½".
Height mounted on truck, 41¼".
Length, 11'-6" for 6 ft. cutter bar.
Width of undercut, 44".
Weight without truck, 5300 lbs.
Weight of truck, 1500 lbs.

Export Packing List.

One 19-A Breast Coal Cutter complete with Truck and Tools.

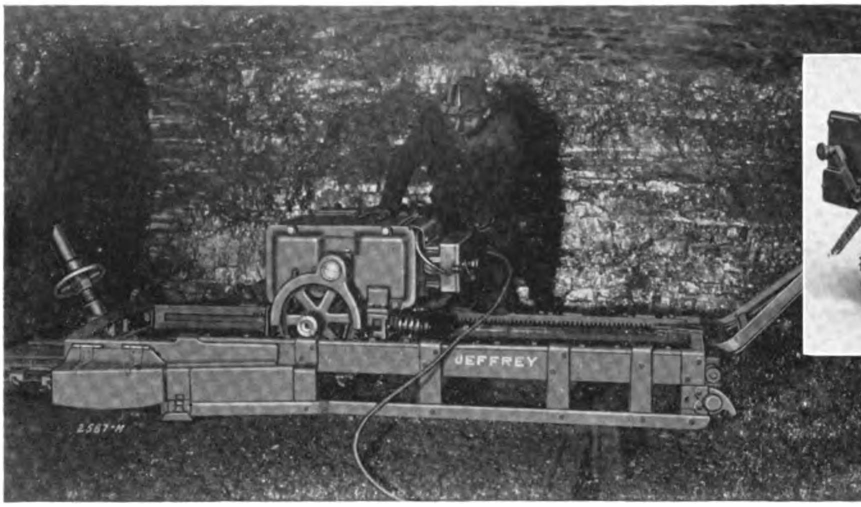
Number of Packages	Size of Packages	Weight—Lbs.	
		Net	Gross
1	11' 9" x 4' 1" x 3'.....................	6800	7600
1 loose	10' 3" x 3' 7" x 6".....................	370	370



At the left is shown the Jeffrey 19-A Breast Type Coal Cutter with enclosed motor equipment. The height overall of the machine as shown is 30½", and when mounted on truck, 41¼"

Mining Machines

21-A Breast Type Mining Machine



Jeffrey 21-A Breast Type Coal Cutter in operation in mine.

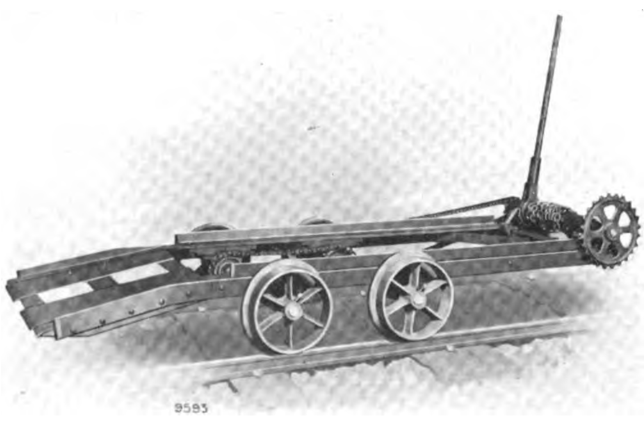
Motor and Gearing used on Jeffrey 21-A Coal Cutter.

THE Jeffrey 21-A Breast Type Machine is suitable for the average mine conditions. It is equipped with an up-to-date enclosed motor, and weighs less than the 19-A machine and is therefore somewhat easier to handle.

Export Packing List.

One Jeffrey 21-A Breast Type Coal Cutter complete with Truck and Tools.

Number of Packages	Size of Package	Weight—Lbs. Net	Weight—Lbs. Gross
1	11′ x 4′ 1″ x 2′ 11″	4600	5150
1 loose	10′ 3″ x 3′ 7″ x 6″	370	370



Standard Truck for Jeffrey Breast Type Coal Cutter.

Dimensions of Jeffrey 21-A Breast Type Mining Machine.

Length of Cutter Bar, 5 ft., 6 ft. or 7 ft.

Height overall, 31″.

Height mounted on truck (with 12″ wheels) 40″.

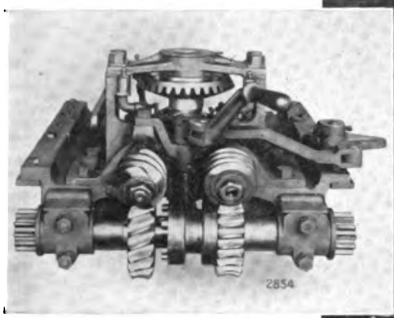
Length 11′-6″ for 6-ft. undercut.

Width of undercut 44″.

Weight without truck, 3600 lbs.

Weight of truck, 1000 lbs.

27-B Breast Type Mining Machine



Gearing of Jeffrey 27-B Breast Type Coal Cutter

Jeffrey 27-B Breast Type Coal Cutter operating in room.

THE 27-B Breast Type Coal Cutter is a small, light and compact machine for relatively easy cutting. It is especially suitable for driving headings in low coal.

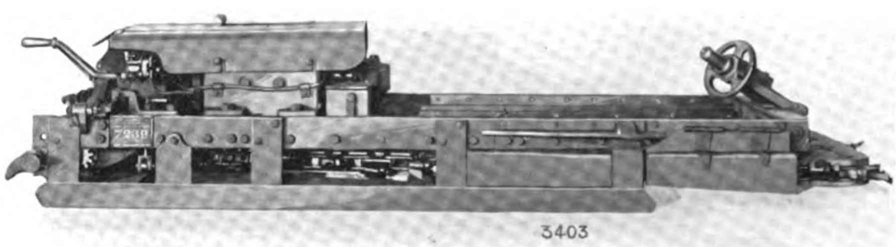
General Dimensions and Weights.

Length of Cutter Bar, 5′, 6′, and 7′.
Height overall 21″.
Height mounted on truck (with 12″ wheels) 29⅜″.
Length, 10′-5″ for 5′ undercut.
Width of undercut, 44″.
Weight without truck, 3000 lbs.
Weight of truck, 1000 lbs.

Export Packing List.

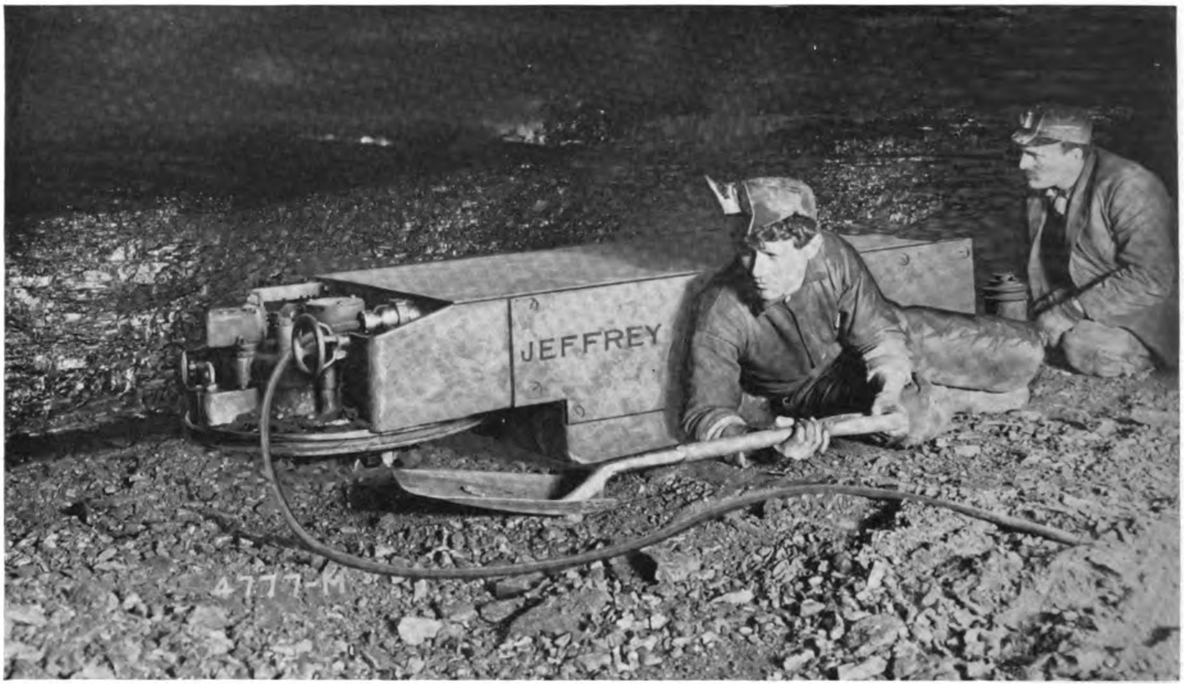
Number of Packages	Size of Package	Weight—Lbs.	
		Net	Gross
1	11′ 6¾″ x 4′ 1″ x 2′ 3″	4427	4950
1 loose	10′ 3″ x 3′ 7″ x 6″	370	370

Jeffrey27-B Breast Type Coal Cutter without truck.



Mining Machines

24-A Longwall Mining Machine



Jeffrey 24-A Longwall Machine.

THIS machine is designed for average conditions in a longwall mine. It is very simple in construction. There is a worm and worm gear drive between the motor and the sprocket, making the operation of the machine quiet, which is desirable in many longwall mines where the men need to listen to the working of the roof.

The feed drum is driven by a ratchet which is arranged so that one or more teeth can be taken at a time, thus varying the feed speed as the machine travels along the face. A friction is provided in the rope drum for protecting the rope and the mechanism. The cutter bar is mounted so that it can be swung 180 degrees. In other words, when the machine has arrived at the end of the face it can be turned around and make a cut along the same face, with the cutter bar on the opposite side of the machine.

Dimensions of Jeffrey 24-A Longwall Coal Cutters.

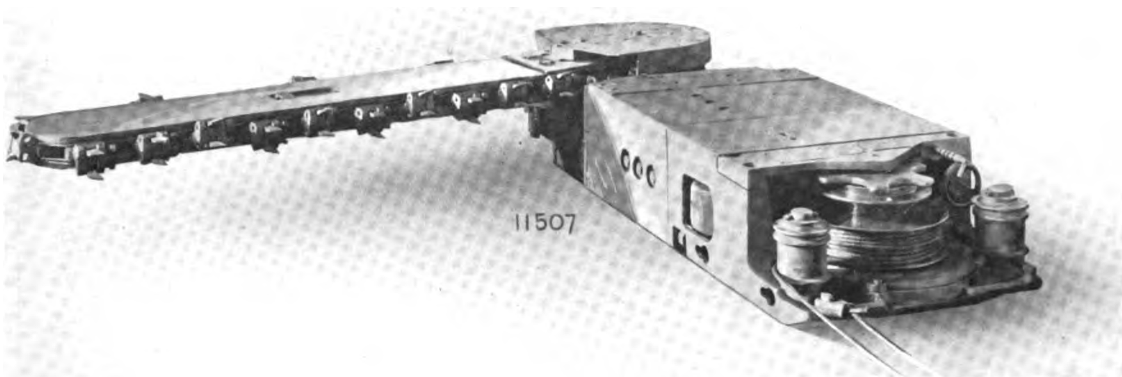
Dimensions	Direct Current	Alternating Current	Air
Length without Cutter Arm	8 ft. 2 in.	8 ft. 2 in.	8 ft. 2 in.
Width	31 in.	31 in.	31 in.
Height Overall	18 in.	20 in.	18¼ in.
Weight	6000 lbs.	6000 lbs.	6000 lbs.
Standard Lengths of Cutter Arm	4–5–6 ft.	4–5–6 ft.	4–5–6 ft.

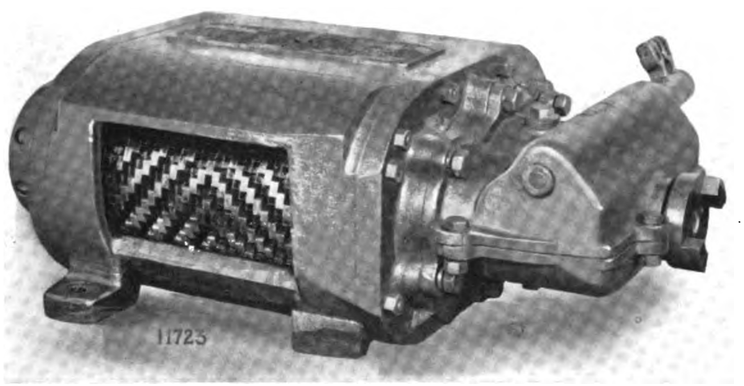
Export Packing List of Jeffrey 24-A Longwall Coal Cutters, complete with Tools.

Number of Boxes	Contents	Size of Box	Weight—Lbs.	
			Net	Gross
1	1-24A Longwall Coal Cutter, complete with tools	9′ 2¼″ x 3′ 1½″ x 2′ 4″	6313	6760

Mining Machines

36-A Longwall Mining Machine





Jeffrey Mining Machine Air Motor.

THE 36-A Longwall Machine is built for very thin seams, the machine being only about 14" high. It can be equipped either with cutter bar on top as shown in the cut, or in the regular manner, with cutter bar at the bottom.

In general design it is practically the same as the 24-A machine, but the motor and gearing are necessarily smaller and lighter on account of the limited space.

Dimensions of Jeffrey 36-A Longwall Coal Cutters.

Dimensions	Direct Current	Alternating Current	Air
Length	7 ft. 3 in.	7 ft. 5 in.	8 ft. 0 in.
Width	30 in.	30 in.	31 in.
Height Overall	13¾ in.	15¾ in.	15 in.
Weight	4000 lbs.	4500 lbs.	5000 lbs.
Standard Lengths of Cutter Arm	3–4–5 ft.	3–4–5 ft.	3–4–5 ft.

Export Packing List of Jeffrey 36-A Longwall Coal Cutters, complete with Tools.

Number of Boxes	Contents	Size of Box	Weight—Lbs.	
			Net	Gross
1	1—36A Longwall Coal Cutter, complete with Tools	9'-0" x 3'-0" x 25¾"	5600	6100

Mining Machines

34-B Mining and Loading Machine

(*Licensed under the Patents of E. C. Morgan.*)

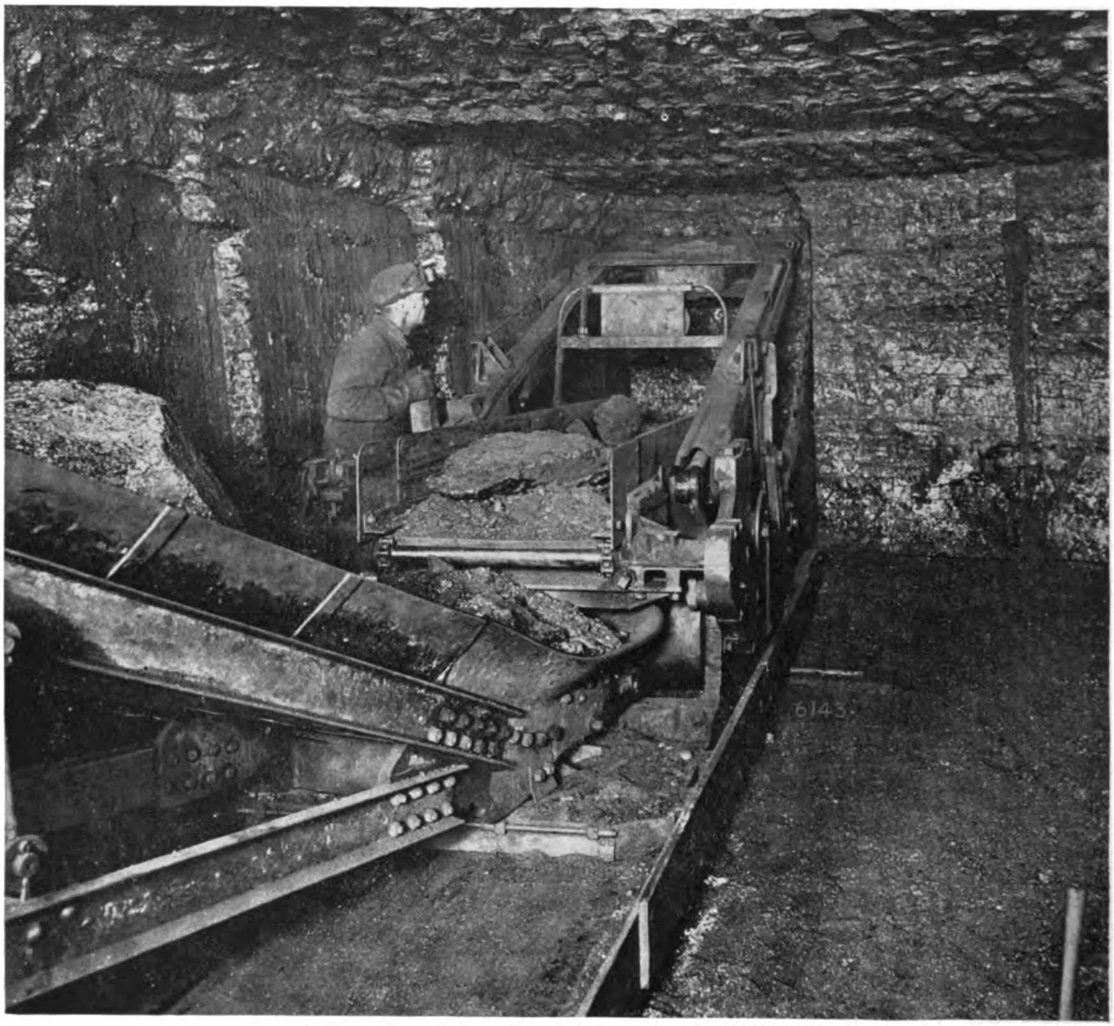


Fig. 1 Driving an Entry with the 34-B Entry Driver—Part of Coal left up for roof.

The 34-B Machine mines and loads without the use of powder.

THE 34-B Machine consists of an undercutting frame with a cutter chain, and a shearing frame on each side of the machine. In the undercutting frame is a conveyor which is thin enough to enter the kerf. There is provided a powerful ram which breaks the coal down on to the conveyor mentioned. This ram can be directed at any height of the coal face. A slight touch on the handle raises or lowers the ram at the will of the machine runner. At the back end of the machine is a conveyor mounted on a turn table in such a manner that it can be turned to suit the position of the machine and car, and the conveyor can be swung over to one side to load slate on top of the gob pile.

Fig. 3 on opposite page is a front view of the machine, showing the ram in its upper position. The shearing frame can be made any height to suit the coal vein. It is customary to leave 6" or more from the top of the shears to the roof; this in order to prevent the shearing chains from

(Continued on page 704.)

34-B Mining and Loading Machine

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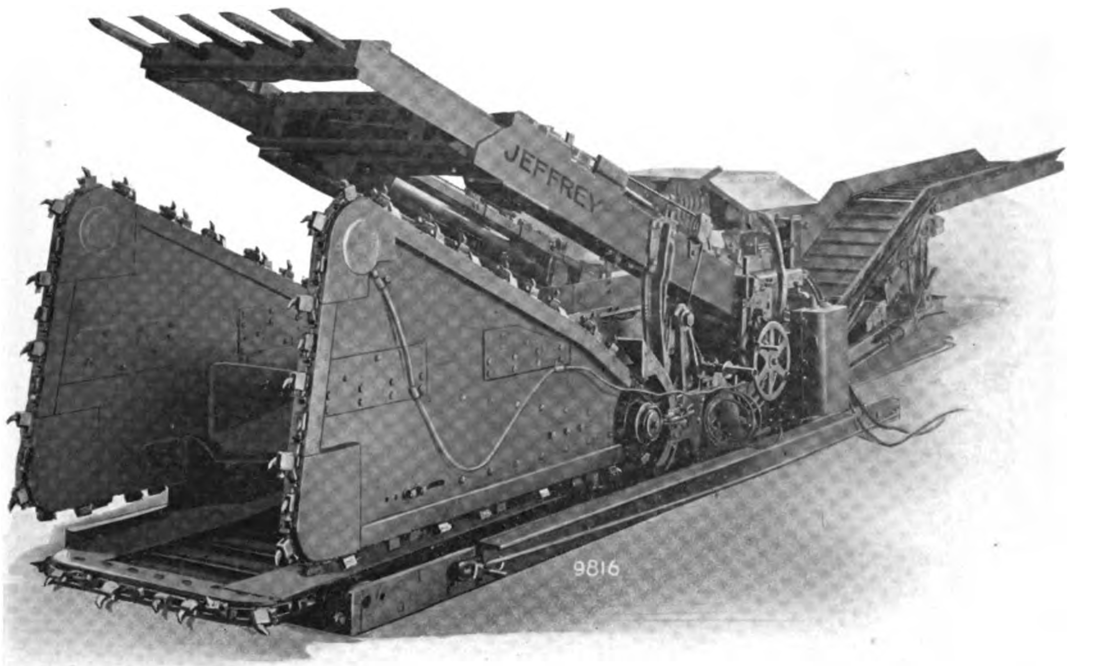


Fig. 2. Operating Side and Cutting End View.

Fig. 3 at left shows Front view with Ram raised.

Fig. 4 at Right shows Front view with Ram lowered.

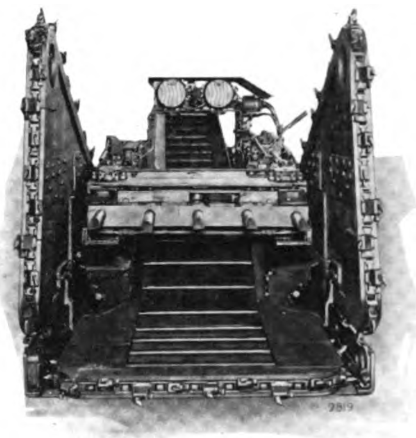
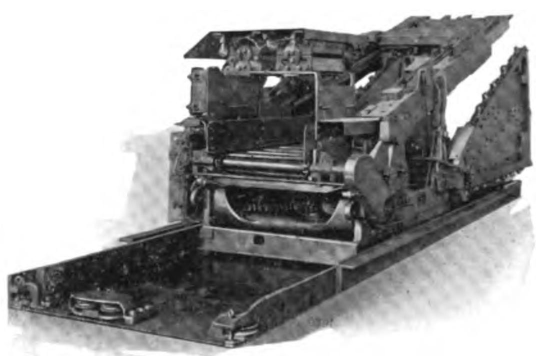


Fig. 5. Rear View with Conveyor removed.



Mining Machines

34-B Mining and Loading Machine

(Licensed under the Patents of E. C. Morgan.)

Fig. 6. Making sumping cut next to left hand rib.

The 34-B Machine will cut break-throughs

(Continued from page 702.)

interfering with the roof in handling the machine. The coal above the shears is knocked down by the ram.

Fig. 4 shows the ram in the low position.

Fig. 5 shows the machine partially fed forward and with rear conveyor removed. The machine is mounted in a pan, and fed forward by means of a steel rope. The forward feed of the 34-B machine is 8 ft. Thus from each cut in a 6 ft. vein, is taken out a volume of coal 5 ft. wide, 6 ft. high and 7 ft. deep (ordinarily this is all the depth obtained from an 8 ft. feed), 210 cubic feet, which would weigh 8½ tons. The time required for making the first cut in the face, ordinarily called the "sumping cut" is about 20 minutes.

The machine is pulled back in the pan by means of a rope. This only takes about one minute. Next, the same rope which pulls the machine back is hooked over a sheave on the forward side of the machine and the eye fastened to a jack at the face of the opposite rib. By means of this rope the machine is pulled sideways the width of the cut. This requires ordinarily about two or three minutes. The machine is then ready to take another cut. One shearing chain is unclutched as

34-B Mining and Loading Machine

(Licensed under the Patents of E. C. Morgan.)

Fig. 7.
Rear Conveyor and Storage Hopper.

Fig. 8.
Rope Hooked for Pulling Forward.

The 34-B Machine will under fair conditions, drive entries about five or six times as fast as is ordinarily done.

it will feed forward in the previous cut where the coal was taken out. The open cuts ordinarily do not take more than fifteen minutes. The machine leaves a small ridge in the bottom, the same as the breast machine when the entry has been cut across.

If the machine was started on the right hand rib and finishes up on the left hand rib, the helper takes up the bottom on the right hand side while the last cut is being made and everything can be made ready to move the machine across the entry up to the face on the right hand rib. This takes longer than moving from one cut to another, the time depending upon the nature of the bottom, and the roof.

Fig. 9 shows the 34-B machine in a room with the rope hitched to a jack, ready to move over to the next cut.

Fig. 6 shows the machine making a sumping cut on the left hand rib. Where the roof is poor, pipe posts such as shown in the figures should be used.

Fig. 8 shows the machine in an entry with rope hitched for moving forward. Where the coal is tough and does not break down readily after being sheared on both sides and undercut, one or more hydraulic jacks are fitted in one of the shearing frames. When the machine has advanced into the coal a certain distance—20 or 30 inches, depending upon the nature of the coal, water is pumped into the jacks, which will exert an enormous pressure on the coal and crack it so that it makes easy work for the ram to bring it down. The use of these hydraulic jacks also results in a very much larger percentage of lump coal than it is possible to obtain in any other manner. The time required to operate the jacks is only about one-quarter of a minute.

Mining Machines

34-B Mining and Loading Machine

(Licensed under the Patents of E. C. Morgan.)

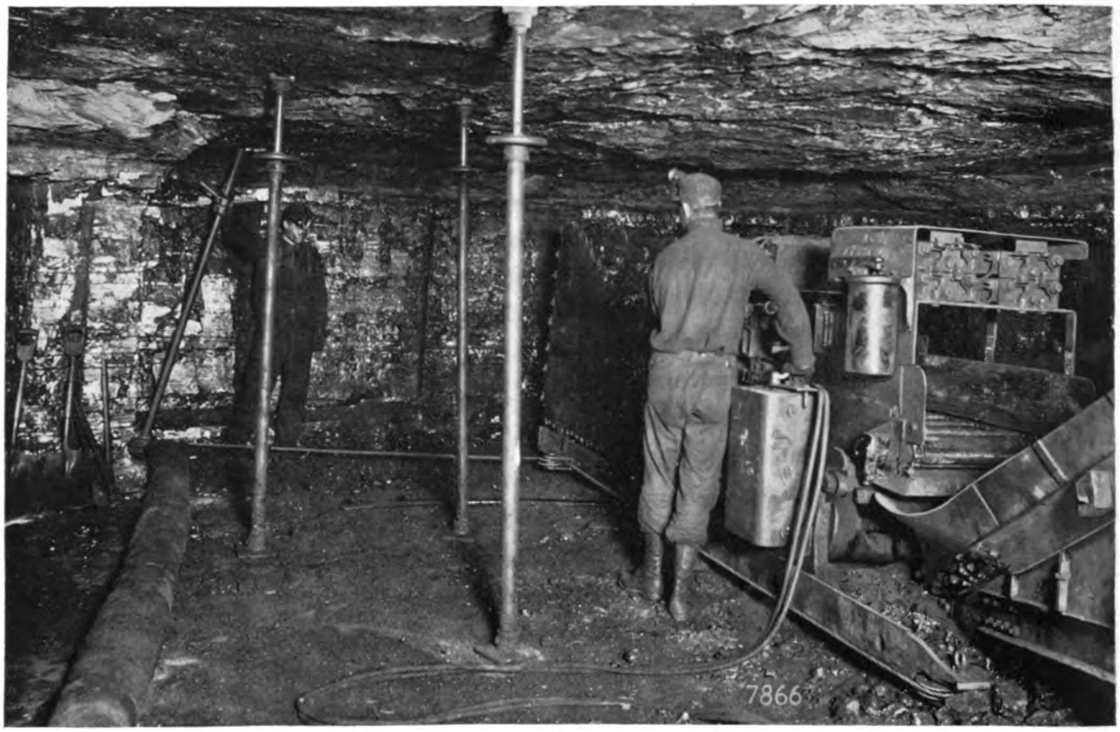


Fig. 9. Handling Rope Hooked for Moving Sideways.

The Jeffrey 34-B Entry Driver makes mining safer due to better roofs and the absence of explosives.

A HOPPER is recommended with the 34-B machine. Without this storage hopper, the machine must be stopped each time a car is loaded, and wait for an empty. From experience it has been found that this takes an average of five minutes, which seriously affects the efficiency of the machine. By the use of a storage hopper, the machine runner pays no attention to the cars; he is loading into the hopper while the cars are being shifted.

Fig. 7 shows the rear conveyor and the hopper.

In driving entries with the 34-B machine, break-throughs should not be driven as close together as is customary. By setting a blower in the nearest break-through and using a canvas tube such as shown at the left hand side of Fig. 9, fresh air can be brought to the face and a big saving effected on cost of stoppings.

It is recommended that the machines be worked double shift.

There are two outstanding features in connection with the use of the 34-B machine. The first and most important is the rapidity with which entries can be driven. The other outstanding feature is safety. The roof is not damaged by explosives. This not only makes safer mining conditions, but often means a big saving in timbering.

34-B Mining and Loading Machine

(Licensed under the Patents of E. C. Morgan.)

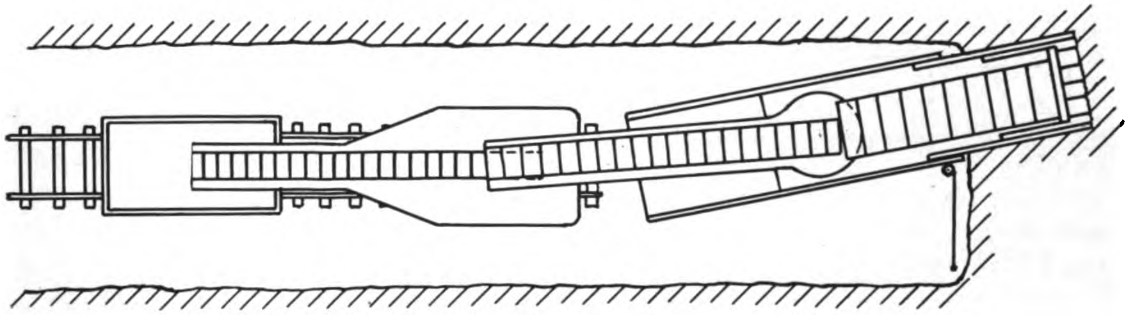


Fig. 10. Making Sumping Cut

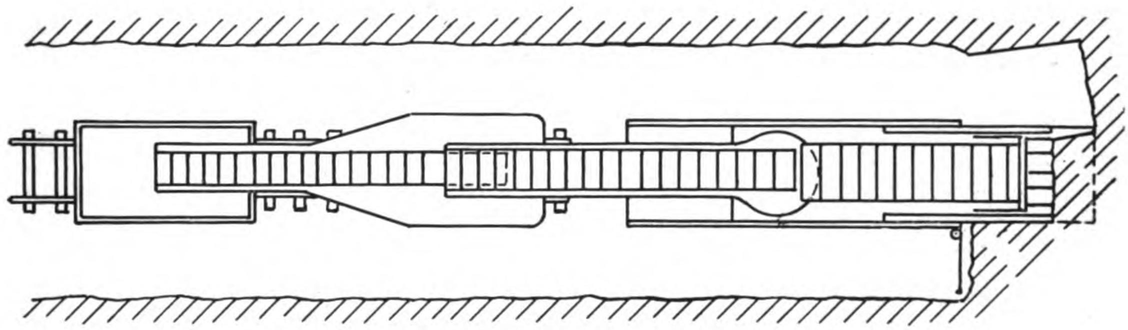


Fig. 11. Making First Open Cut

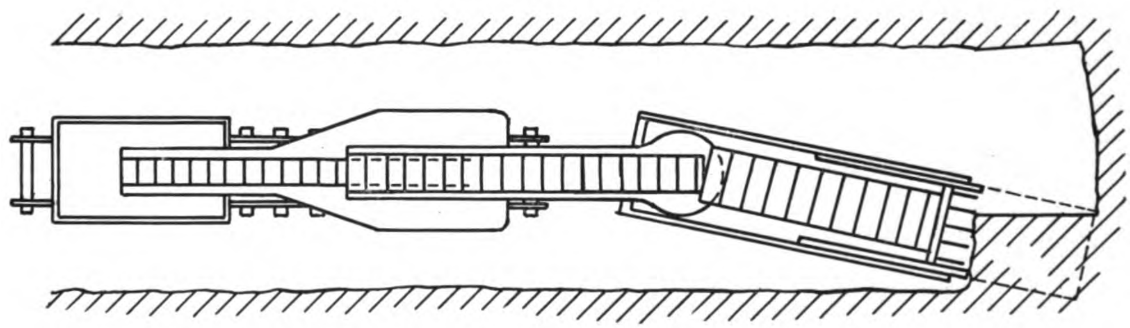


Fig. 12. Making Finishing Cut

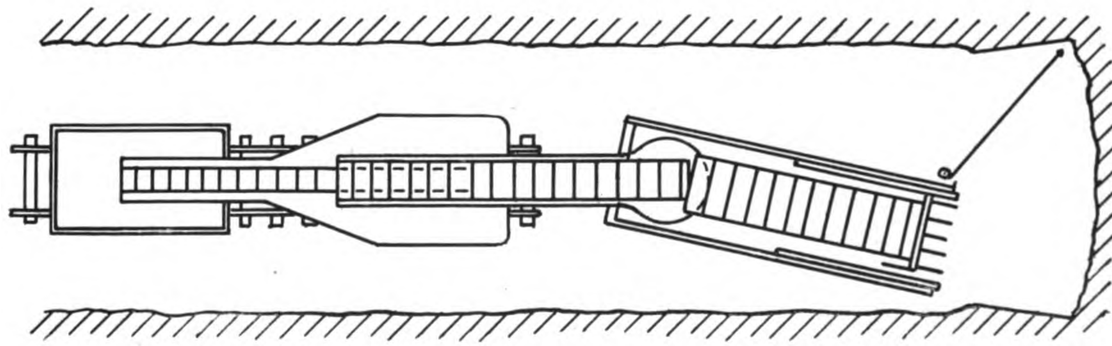


Fig. 13. Moving Ahead

Mining Machines

34-B Mining and Loading Machine

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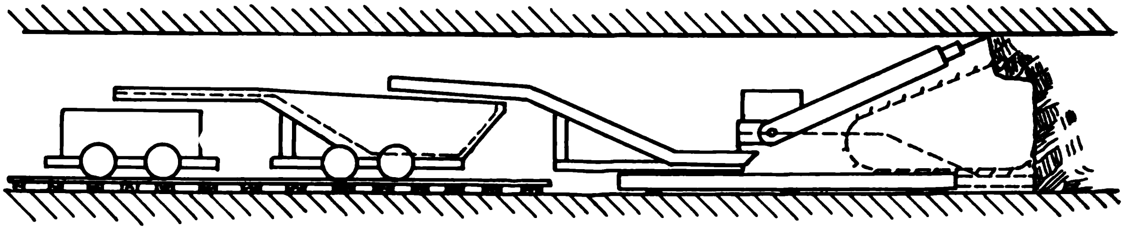


Fig. 14. Car, Storage Hopper and Machine.

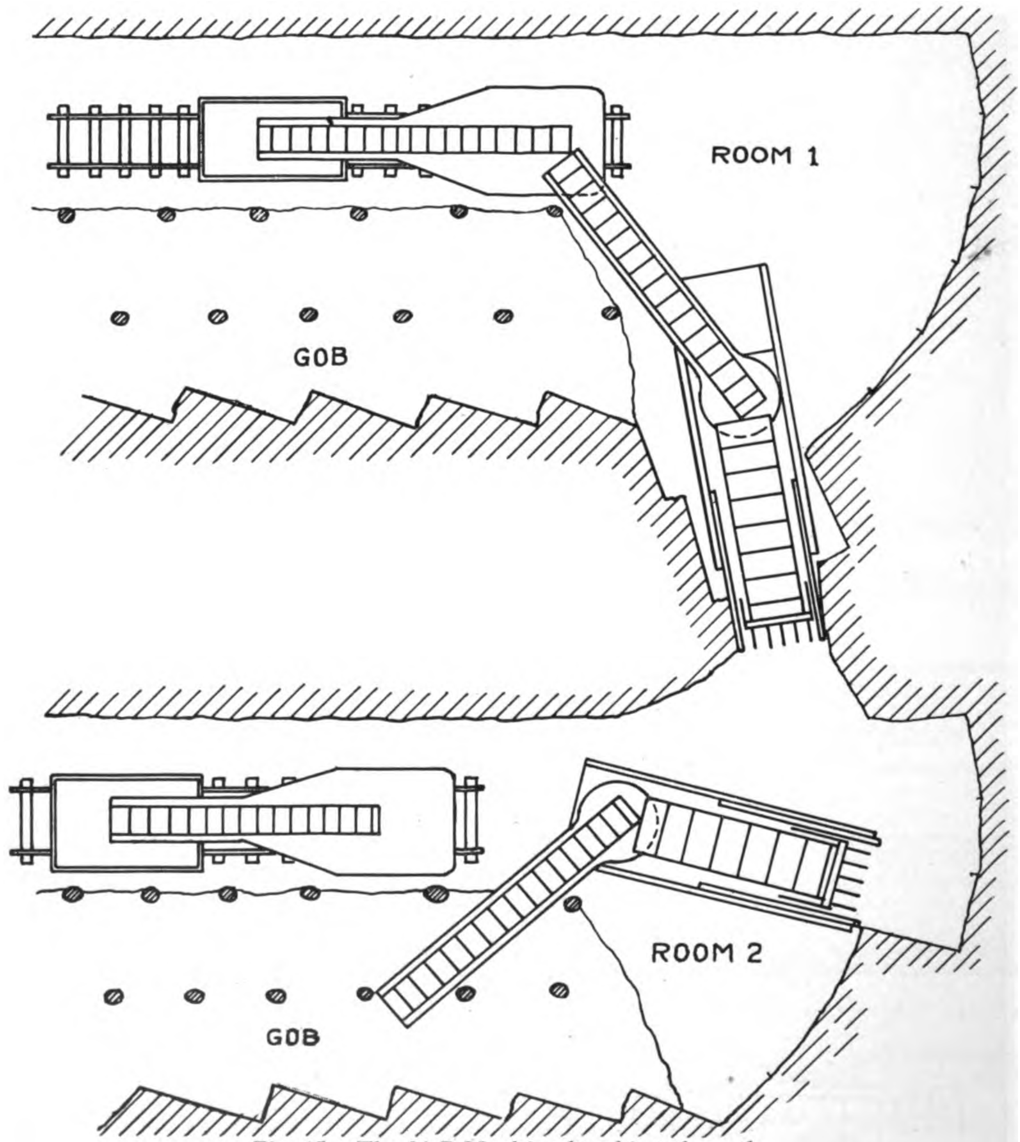


Fig. 15. The 34-B Machine breaking through.

Above is shown two 34-B machines working in adjacent rooms. The machine in Room No. 1 is cutting a break-through; the machine in No. 2 has made three cuts and is gobbing the draw slate that has come down from these three cuts. The remainder of the cuts are then taken out, the draw slate gobbed, and the bottom taken up on the left hand side of the room before the machine is moved forward.

34-B Mining and Loading Machine

(*Licensed under the Patents of E. C. Morgan.*)

Mining and Loading Machines reduce time element in opening mines.

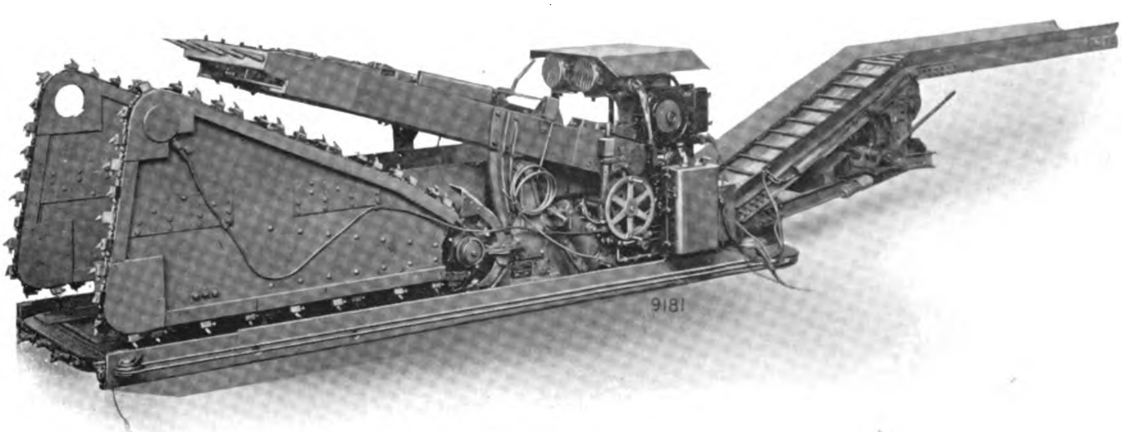
THE use of mining and loading machines will materially change the coal mining industry. A property that, with the present system, takes years to develop, can be opened up in a short time by the use of these mining and loading machines. As soon as the overhead equipment, shaft or slope is ready, it is simply a question of putting in a sufficient number of machines to obtain the desired output. The work can be concentrated and the output obtained from a small territory.

Shortwall Machine Runners make good 34-B Entry Driver Operators.

The crew for each machine consists of a machine runner, a helper and a trimmer. If the slate is heavy, it may require an extra man for handling this material. The same class of men that make good shortwall machine runners make good men for the mining and loading machine.

Mine Workings Concentrated.

In a mine equipped with mining and loading machines the cost will not increase from year to year as the mine is being worked out, as is the case with the present system. The workings will always be concentrated. Only main haulage will become longer, and this will not materially affect the cost.



Side View of 34-B Entry Driving Machine.

Coal Loading Machinery

38-A Pit Car Loader

38-A Loading Machine and Scoop loading coal in wide room.

AS the demand for coal grows stronger, the man power available for its production will doubtless become less. To offset this shortage, various means have been proposed, but none appear to possess greater merit than the employment of light, easily portable loading conveyors, which perform the most arduous work the loader has to do. In practice this has made it possible to increase the production per man employed.

A man shoveling coal into a car is desperately inefficient from a mechanical standpoint. In order to lift a shovel of coal weighing say 20 lbs., through a distance of, say 3½ feet, he must lift his trunk from hips upward from a position nearly horizontal, to a position nearly vertical.

The foot pounds expended in raising his body are many times greater than the foot pounds exerted in lifting the coal; therefore the total muscular energy thus expended is large, while the portion consumed in useful energy is small. By the use of a conveyor, the coal does not have to be lifted more than a few inches. Some of the coal can be pulled on to the loading end of the conveyor by means of the scoop. There is provided a capstan on two sides of the machine by means of which the scoop is pulled. Two or three turns of a manila rope around the capstan pulls the scoop, and this also acts as a safety device, as the rope slips in case the scoop should catch on the bottom. Where large cars are used, one of the capstans and rope can be used for moving cars as they are being loaded.

The advantage of a light, inexpensive conveyor is that its usefulness is not seriously affected by the various delays that are unavoidable in coal mines; for instance, if the conveyor is compelled to remain idle for, say fifteen minutes, in waiting for a car, the men will have work to do in the meantime. They may pull down coal from the face or load up the front end of the conveyor so as to have a carload ready as soon as an empty is secured, or they may take a rest, which under any circumstances can hardly be considered a waste of time.

38-A Pit Car Loader

In this illustration two miners are finishing up a room with hand shovels after using the scoop.

By the use of the conveyor it has been demonstrated that an increase in output can be secured employing the same number of men. If the men can double the number of cars loaded per shift by the use of this machine, it is obvious that each place will load out in half of the time required by the use of shovels only, and therefore each place can be cut and loaded out twice as often.

This is equivalent to doubling the output with the same number of loaders or from the same territory, the same output can be obtained with less men, and no development work will be necessary for some time to come.

The machine is never unloaded from the truck. It is pivoted and one man can tip up the front end of the conveyor by hanging on the rear end. Blocking is provided for holding up the front end while moving from one place to another. There is a clutch provided so that the truck driving chain does not have to be removed when the machine is loading coal. There is also an arrangement made for stopping the conveyor and still keeping the capstan going so that the scoop can be operated while the machine is waiting for cars.

The saving in cost due to obtaining the output from a comparatively small territory is effected by the saving in track and trolley material, upkeep of entries, ventilation and pumping, less number of day laborers such as trackmen, timbermen and sub-foremen which would be required. There will also be a saving in keeping each mining machine in a smaller territory, as there will be less traveling done. The gathering of coal would be simplified and the expense reduced.

As each working place is worked out in a shorter time the roof should stand up better reducing the expense of timbering and the labor required to handle falls from the roof. The mine can be kept in safe condition at comparatively small expense and the number of accidents materially reduced.

Information

The following information should be given with inquiries:

(1) Height and length of coal car.

(2) Space between top of car and roof. (This must be sufficient to give room for the conveyor, which is 6¼" thick, and lumps of coal passing over it.)

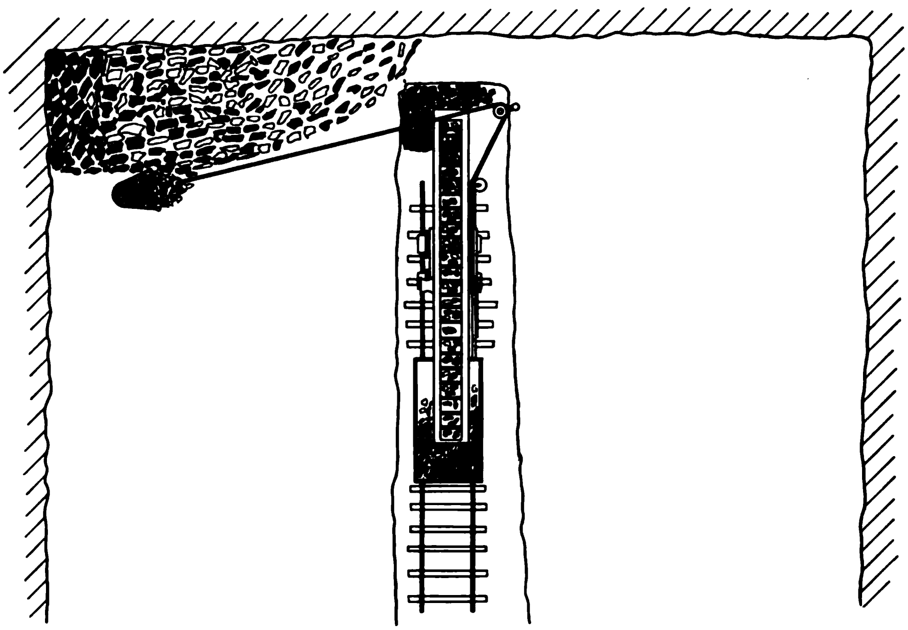
(3) Height of ties and rail.

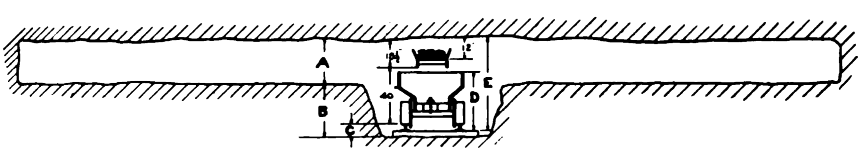
(4) Gauge of track and voltage.

Coal Loading Machinery

38-A Pit Car Loader

Loading out coal in an entry. In narrow places the coal is rolled, pulled down or shoveled on to the Conveyor. The Scoop is used in wider places.



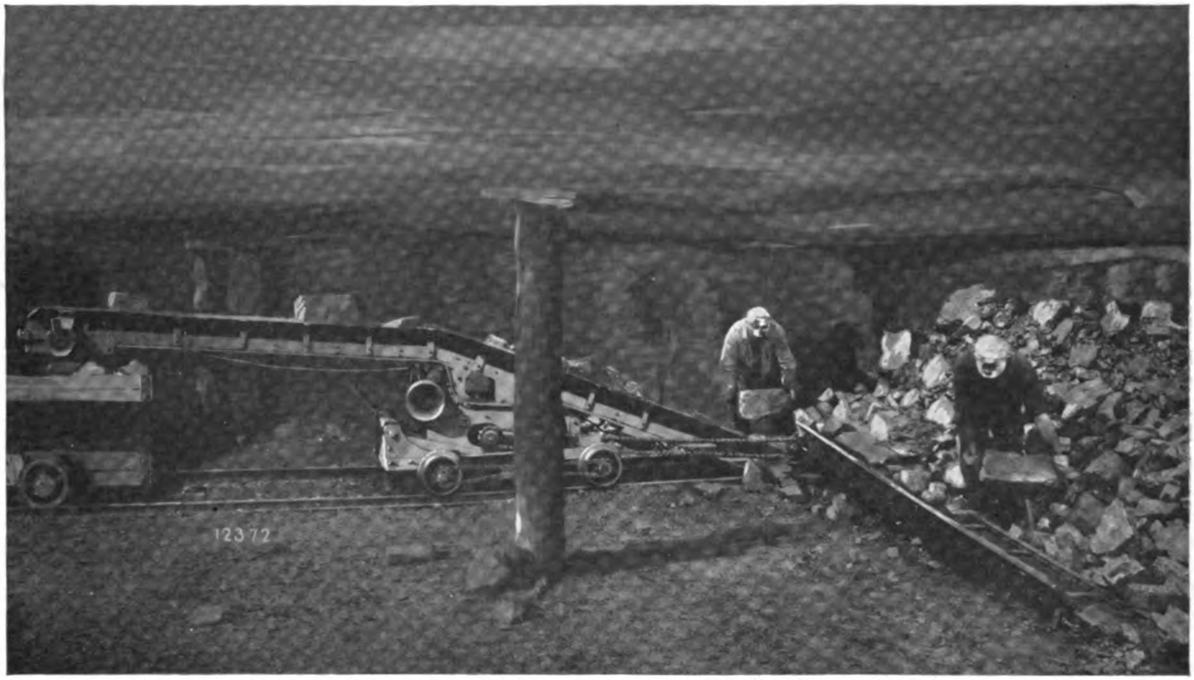


THE 38-A Pit Car Loader can be used to advantage in low coal. Sufficient bottom is taken up to give head room for the car and loader. 12″ is minimum required between the conveyor and the roof, to allow the coal to travel, but a greater distance is preferable.

The standard loading machine is 40″ from the top of rail to the part of the conveyor which projects over the car. This can be made more, or less, if necessary.

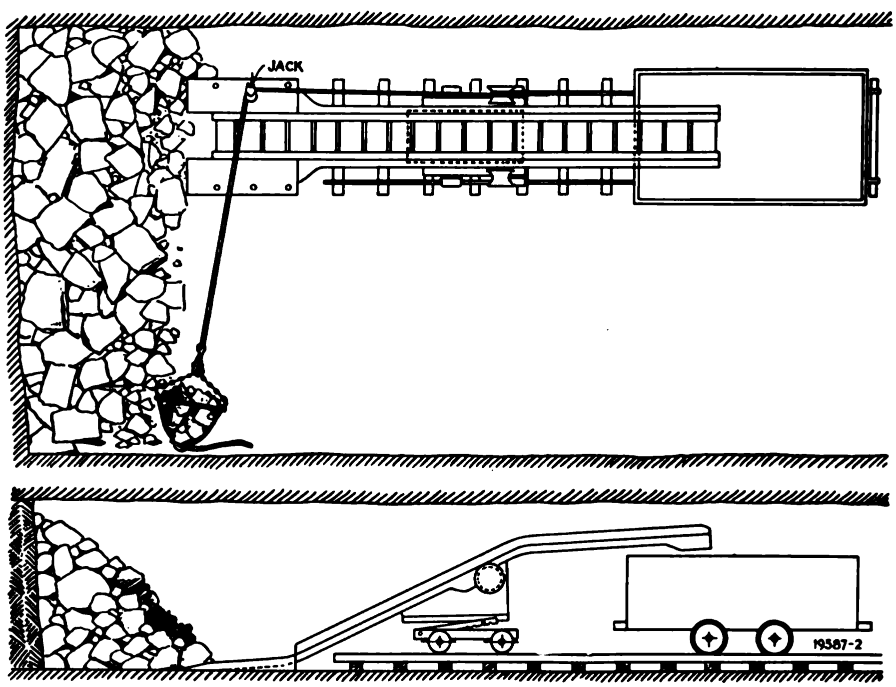
By giving the dimensions A, B, C, D, proposal specifications will be forwarded for a loader to suit conditions.

38-A Pit Car Loader



Jeffrey Pit Car Loader with Auxiliary Conveyor.

IN wide rooms with track on the one rib, it is advantageous to use an auxiliary conveyor laid parallel with the face. This conveyor is driven by a chain from the machine proper. When a room is loaded out, the auxiliary conveyor is loaded on top of the machine by power, and thus transported from one place to another. Very little time and labor is required for loading or for unloading and setting up.



Diagrammatic view showing relative positions of Conveyor, Car and Scoop.

A-5 Electric Rotary Coal Drill

THE Jeffrey A-5 Electric Rotary Drill is a powerful, serviceable and dependable machine for drilling Coal, Shale, Slate, Rock Salt, Clay, Gypsum, Soft Rocks, or any other material which can be penetrated by an auger bit. It is designed on substantially new lines and possesses distinctive features which combine to make it the most economical and thoroughly efficient electric rotary drill thus far introduced.

The following table shows the rates of forward feed obtained at different rotative speeds of the feed bar with different threads of the feed screw. Gearing and feed bars can be furnished for any of the following combinations. The figures at the right being inches per minute which the auger drills.

Descriptive Letter	Descriptive Letter	A	B
	Revolutions of Feed Screw per minute	106	224
E	5 Acme Threads per Inch	21. 2"	44.75"
Std. F	6 Acme Threads per Inch	17. 9"	37. 4"
G	8 Acme Threads per Inch	13.25"	28. 0"
H	10 Acme Threads per Inch	10. 6"	22. 4"

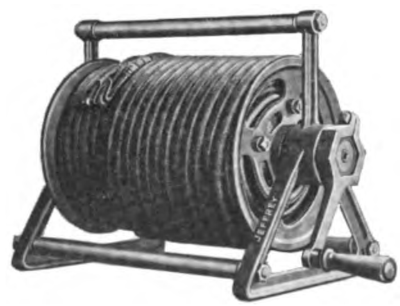
The regular Equipments are as follows:

Standard Speed—106 R. P. M., letter A, with six threads per inch of feed screw, letter F, combination AF, making a feed of 17.9 inches per minute.

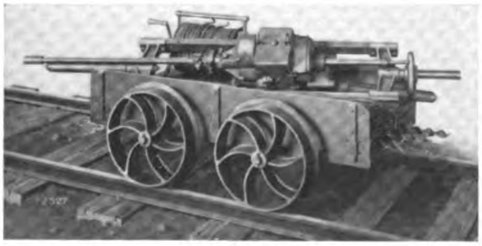
Fast Speed—224 R. P. M., letter B, with six threads per inch of feed screw, letter F, combination CF, making a feed of 37.4 inches per minute.

For coal mine work where the bottom is suitable, trunnion wheels are provided so that the drill and frame can be wheeled into position. For Clay mines it is not advisable to provide these trunnion wheels on account of soft bottom.

Jeffrey A-5 Electric Power Drill —Operated by One Man.



Standard Cable Reel.



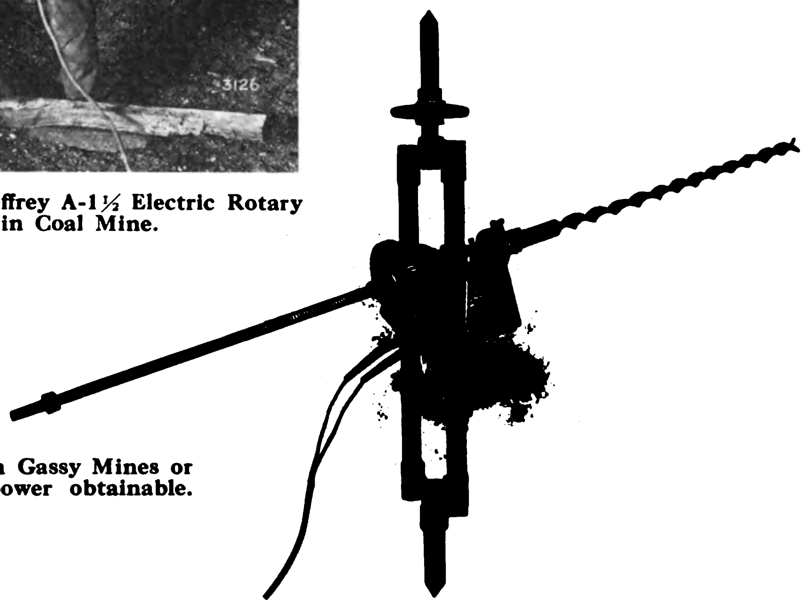
Jeffrey A-5 Drill and Standard Equipment Loaded on Truck.

Standard Cable Reel with 250 feet of flexible duplex insulated cable having insulated terminal plugs, which is furnished with the Jeffrey A-5 Drill.

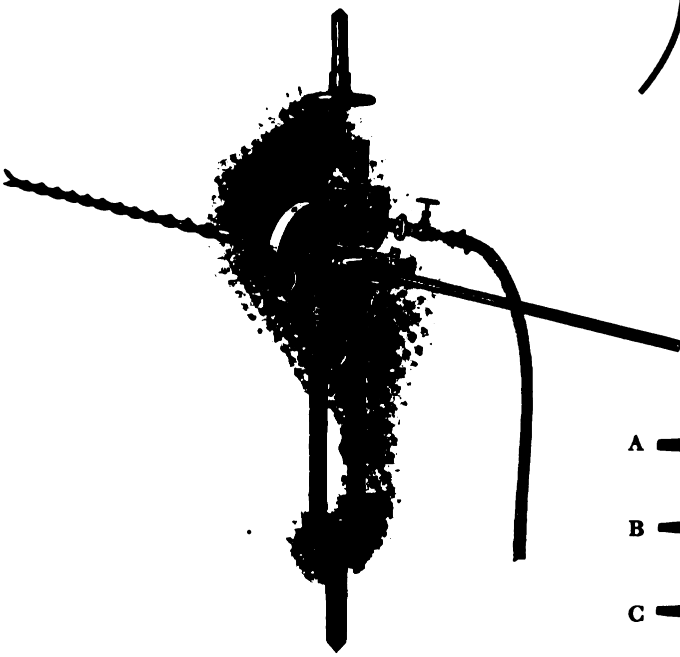
A-1½ Electric Rotary Coal Drill

The above illustration shows a Jeffrey A-1½ Electric Rotary Coal Drill operating in Coal Mine.

Below is shown a Jeffrey A-1½ C-3 Standard Drill. Speed of Auger, 363 R. P. M. Standard Feed Bar, 10 Threads per Inch.



Jeffrey Giant Air Drill is used in Gassy Mines or where air power is the only power obtainable.



Jeffrey Giant Air Drill.

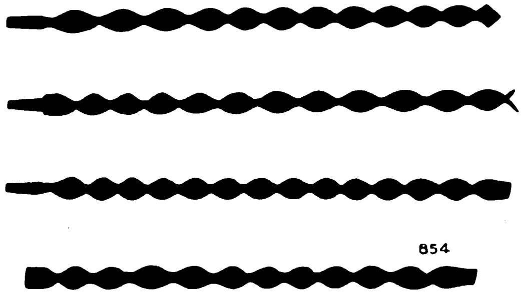
Special Auger Bits for Jeffrey Rotary Air and Electric Drills, made in the following styles:

A

B

C

D



Mine Ventilating Fans

The Jeffrey Stepped Multi-Bladed Fan

MINE Fan and Mine Ventilation data is given in a compact form on the following pages, enabling those interested in the ventilation of mines to solve their problems in a highly efficient manner. The demand for a Mine Fan of higher efficiency against heavy mine resistance at low speed is one of long standing. A high efficiency fan must be properly designed and carefully built. Experience and knowledge backed up with the most modern manufacturing equipment enables us to meet the growing demand for a saving of power in the ventilation of mines.

Stepped Multi-Bladed Wheel Type Saves 10% to 30% in Power Bills.

The ideal condition for the operation of any centrifugal fan is to receive and accelerate the air without shock and discharge it at a low velocity.

The former condition is a function of wheel design while the latter relates to the casing. To be efficient the wheel must receive the air at a low velocity. The power required to accelerate air is wholly lost, hence the lower the velocity of the air as it enters the fan, the greater will be the economy of operation. Jeffrey Stepped Multi-Bladed Fans are built of ample size to handle the air at low velocities. Power is not consumed to create high velocities as is the case with small fans working above their normal capacities.

When the air enters the inlet it must be gradually accelerated to the speed of the tips of the fan blades. Any shock or sudden change of direction or speed results in a distinct loss which can never be regained. If the inner edge of the blades is at a great distance from the shaft it will meet the air with a shock which involves a great loss. The Jeffrey Multi-Bladed wheel overcomes this difficulty with its stepped series of blades.

Extension of Blades gives Stability to Wheel

The first series of blades extend far into the inlet. This serves a two-fold purpose. It is very evident that the inner edge of the blades has a much slower rotative velocity than the outer edge. Hence they pick up the incoming air at relatively low velocity and impart to the particles the rotative velocity of the blades at this point. It is also just as evident that the extension of the blades gives more stability to the fan wheel.

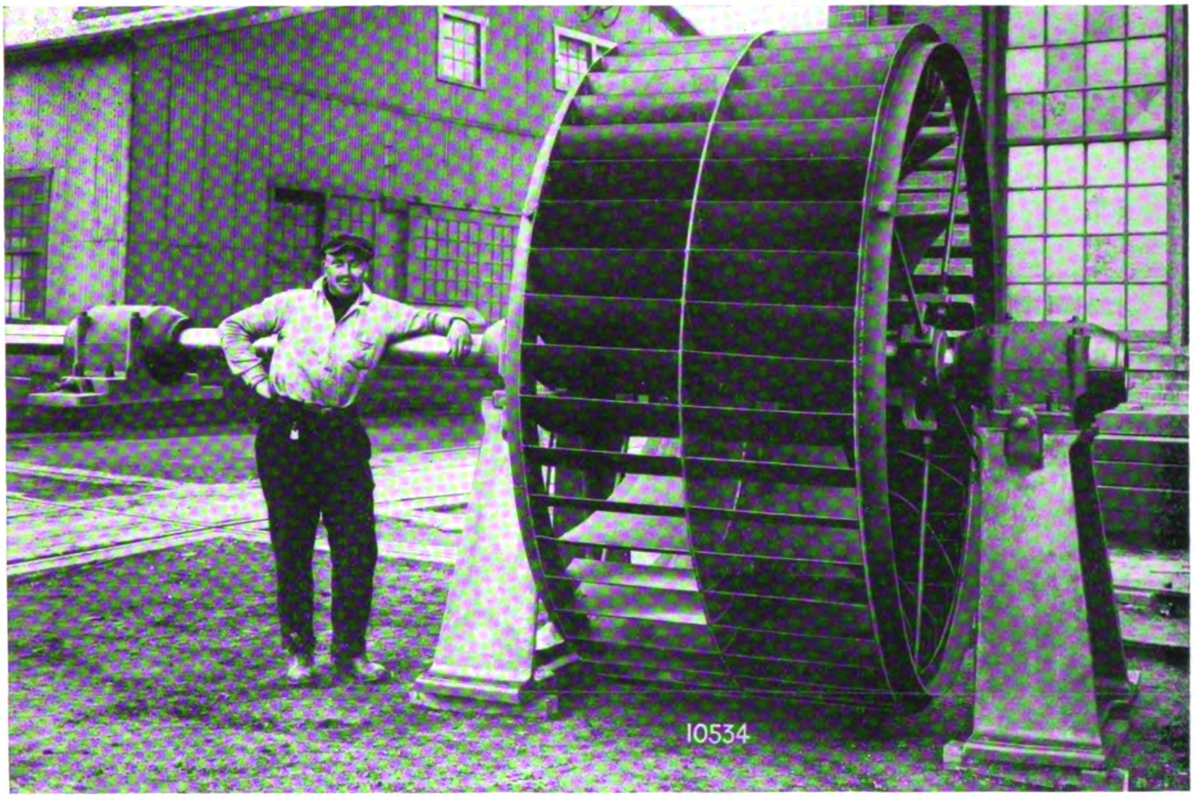
The second series of blades extend into the inlet but terminate short of the first series and serve as the second step for the rotative velocity of the air. The vertical and rotative velocity thus becomes uniform, and the air is stepped from one series to another, reaching each series without shock and upon reaching the circumference of the inlet the air has practically obtained the rotative speed of the third series of blades.

The third series consist of blades terminating at the inlet circle which not only serves to impart the angular velocity to the air but prevents any cavitation back of the first and second series of blades and effects a uniform discharge at all points on the circumference of the wheel.

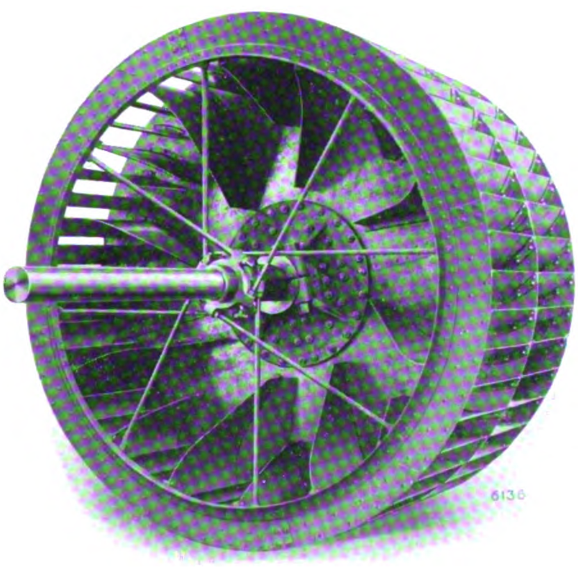
Save $1000 in Your Yearly Operating Expense

Your interest can be best served by a concern whose fans are designed and built for the exact requirements of each particular mine. Power saving and labor saving devices are the watchwords around mines today. A saving of 20 H. P. means a saving of at least $1000.00 in your yearly operating expense. Consider carefully that the Jeffrey Stepped Multi-Bladed Fan requires less power for its operation than any fan heretofore offered.

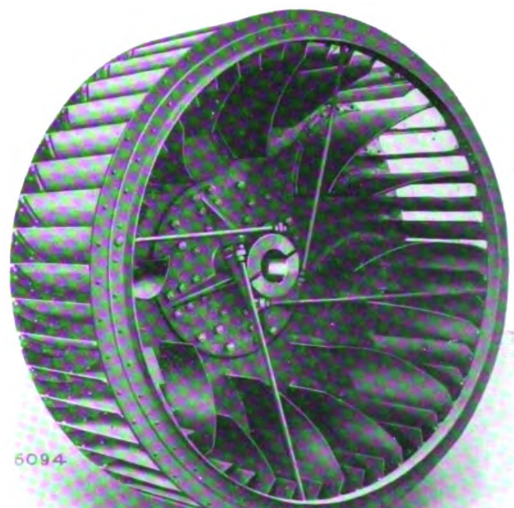
Stepped Multi-Bladed Wheel



Double Inlet Stepped Multi-bladed wheel supported on each side by dust proof bearings and heavy cast iron pedestals extending to the floor line.



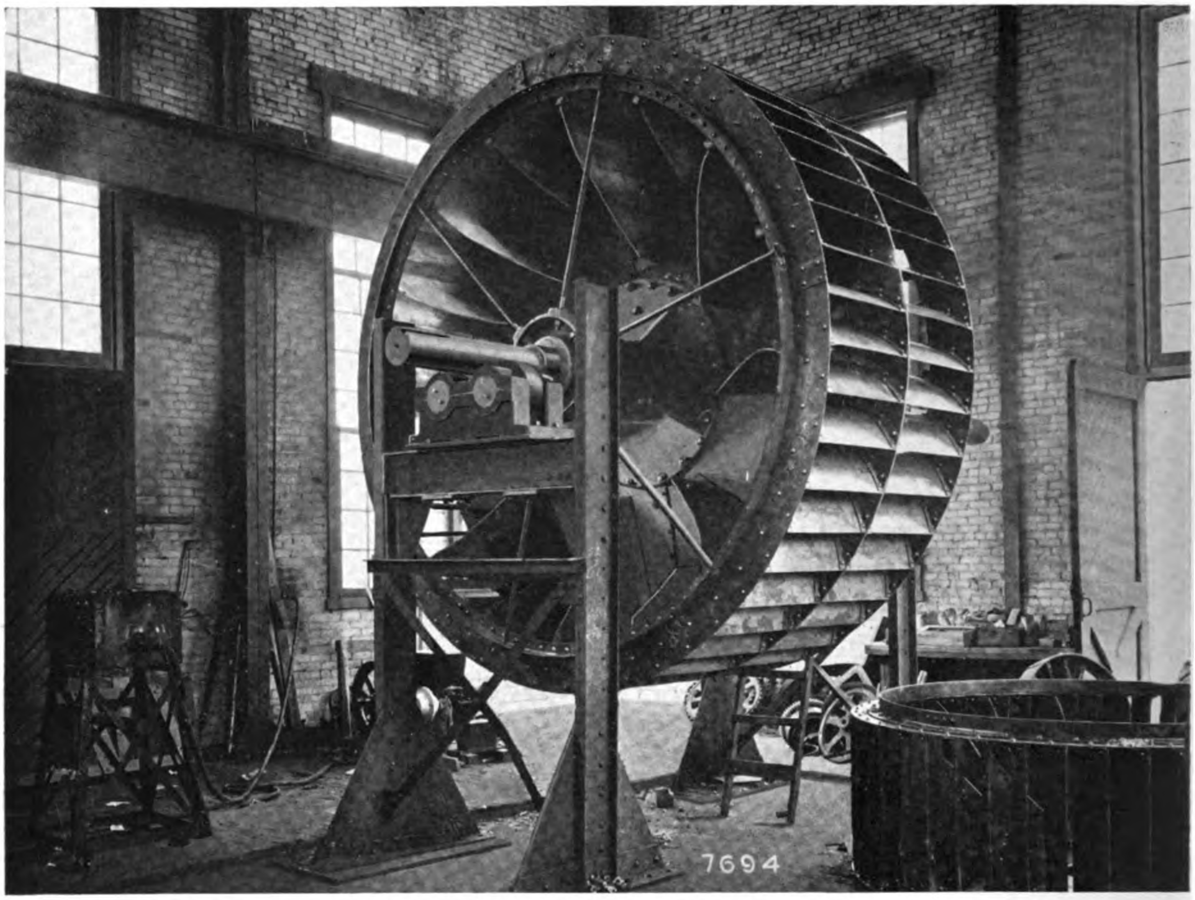
Double Inlet Wheel



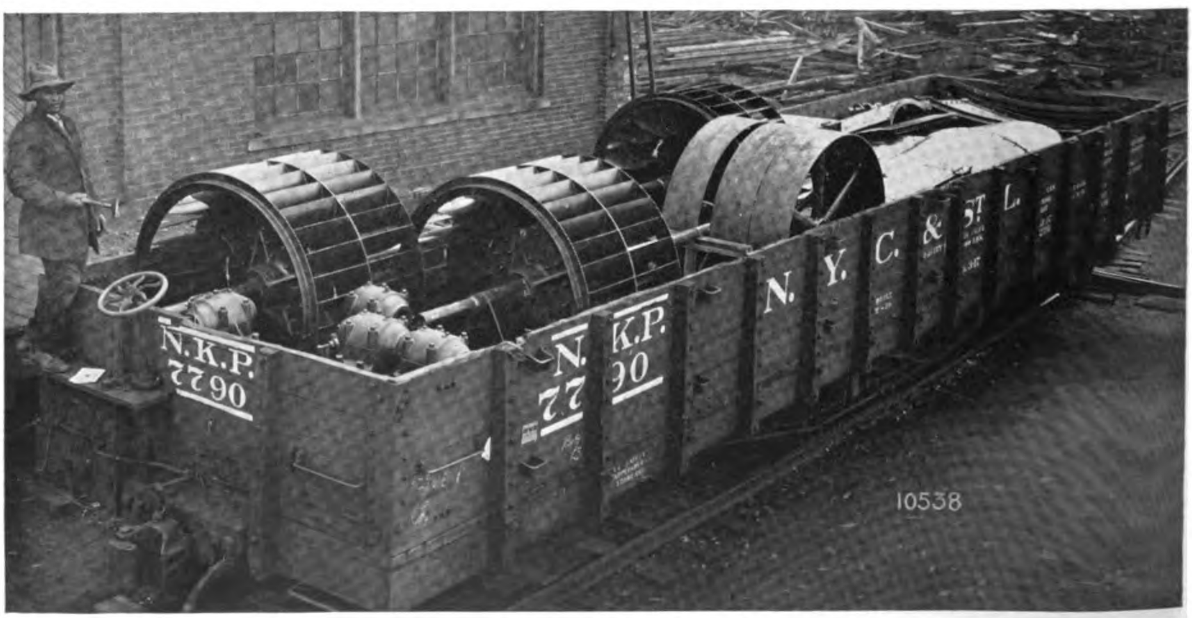
Single Inlet Wheel

Mine Ventilating Fans

Stepped Multi-Bladed Wheel

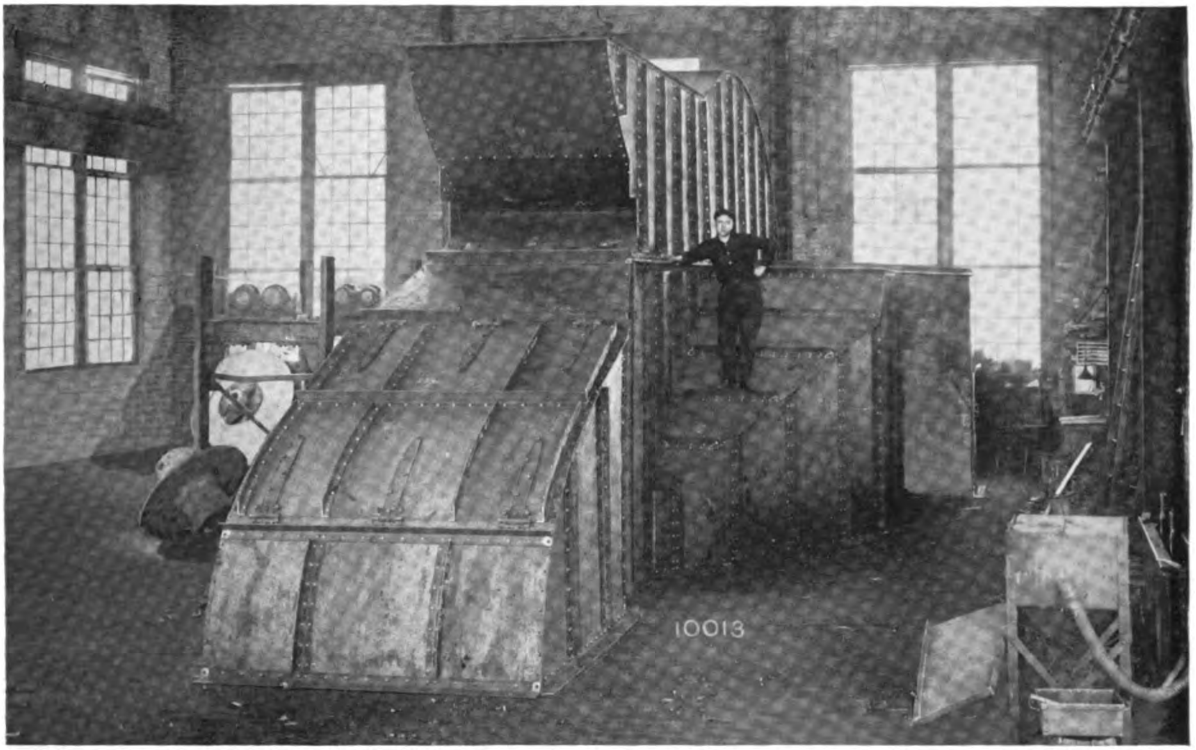


Every Fan Wheel is mounted on ball bearing rollers symmetrically balanced before shipment.



Mine Ventilating Fans

Steel Casings and Drifts



12′ Double Inlet Primarily Blowing Reversible Casing with steel side drifts, all steel doors and hood fitted with explosion doors extending over air shaft.

Steel Casing Extending to Floor Eliminates Masonry Work

FANS are usually furnished with complete steel casings extending down to the floor line which eliminates much of the masonry required for other makes. Complete steel cased fans not only save the purchaser much time, trouble and expense to install, but make the manufacturer responsible for the proper construction of the fan housing complete.

Four Types of Fan Casings

The casings are generally built in four distinct types, namely, Blowing, Exhausting, Primarily Blowing Reversible and Primarily Exhaust Reversible.

The Blowing casing may be built with steel hood extending over an air shaft or arranged for blowing into a drift or slope mine. Exhaust casings are built with wide expanding chimneys and the mine connection may be made in masonry or steel construction. Primarily Blowing Reversible casing is used where the main duty of the fan is blowing, but may be reversed in case of emergency. A Primarily Exhaust Reversible casing is used where the main duty is exhausting.

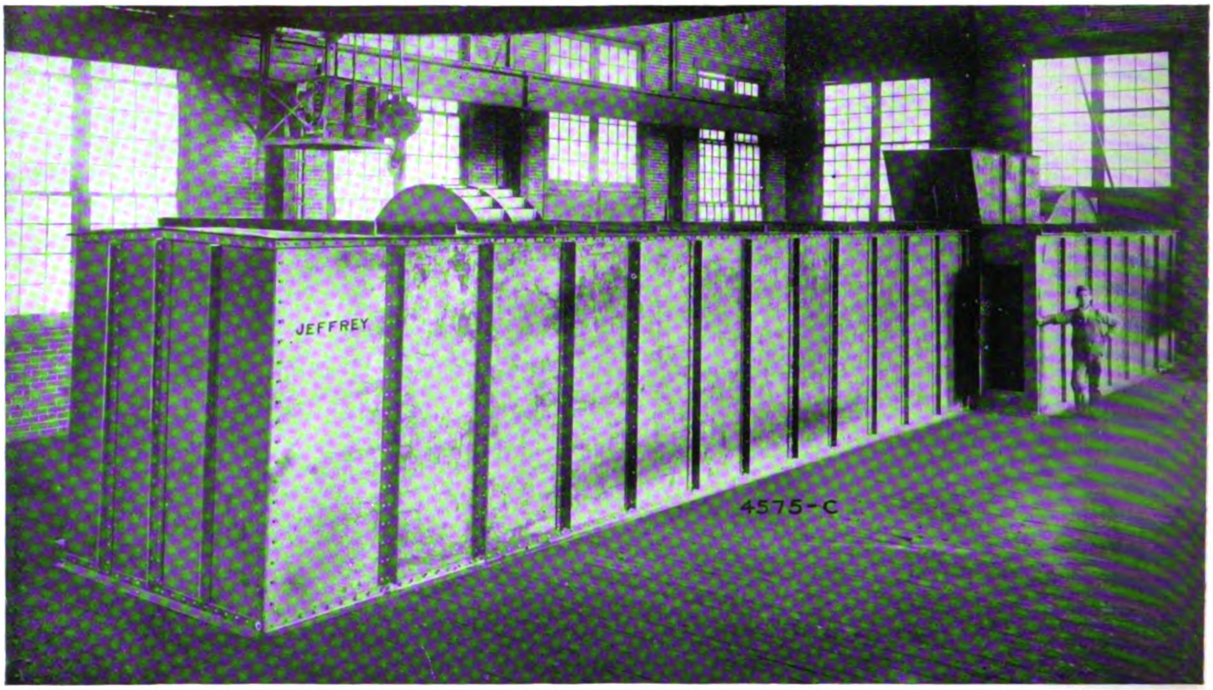
Steel Connections Can Be Furnished

In addition to the fan casings proper, we are prepared to furnish complete steel side drifts and connections to the mine. This construction is very practical with a great number of installations, because it enables the fan to be moved from one place to another without the loss of expensive masonry work. It also permits a fan to be installed as readily in the winter as in the summer and facilitates a quick change from the old fan to the new, requiring in most cases a shut-down of not more than a day or two.

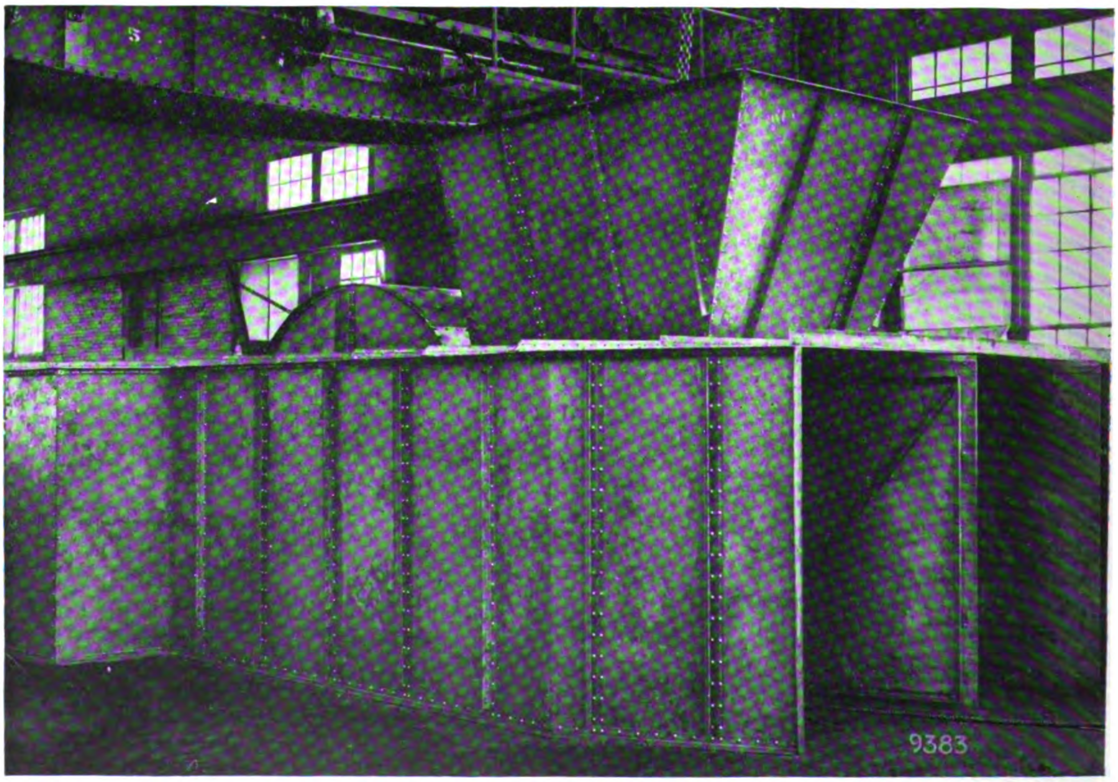
A careful study of the various types of casings illustrated in this catalog will give those interested in the ventilation of mines a comprehensive idea of the unexcelled facilities we have for handling their requirements. Prices of air shaft hoods fitted with explosion doors, steel side drifts and steel doors for same, steel connections between fans and mines will be furnished on request.

Mine Ventilating Fans

Steel Casings and Drifts

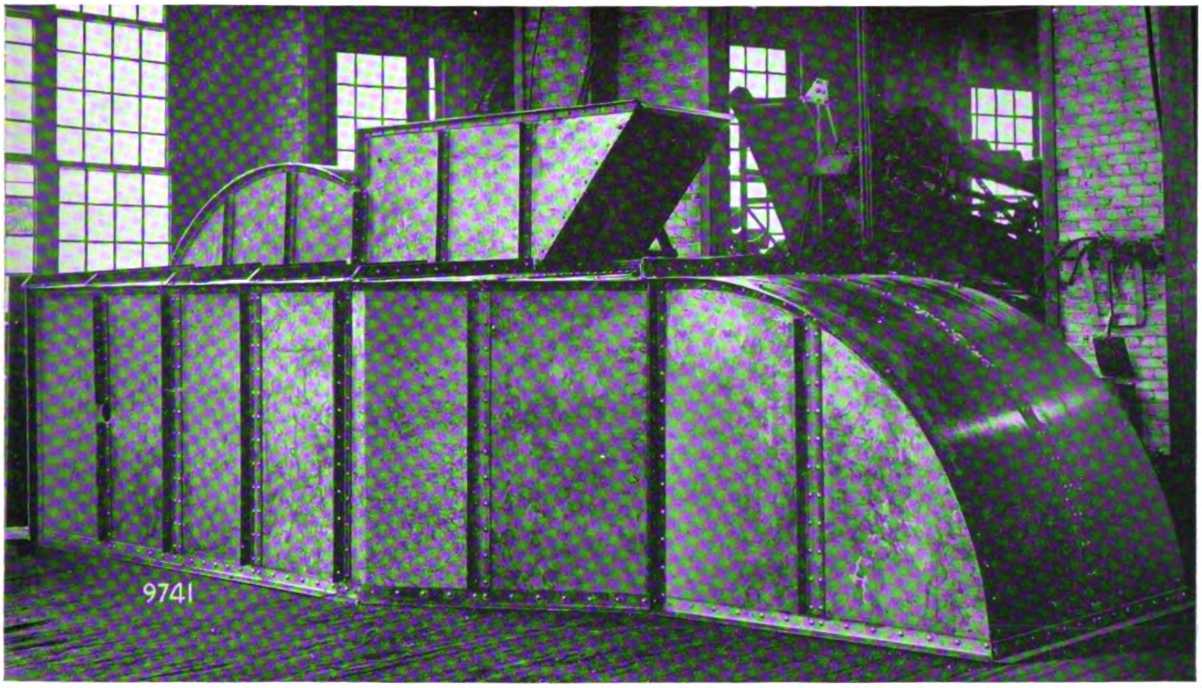


10' Double Inlet Reversible Fan Casing assembled in shop before shipment. Fan Casing is equipped with 30 foot steel extension, provided with explosion doors to conform to Alabama mining laws.

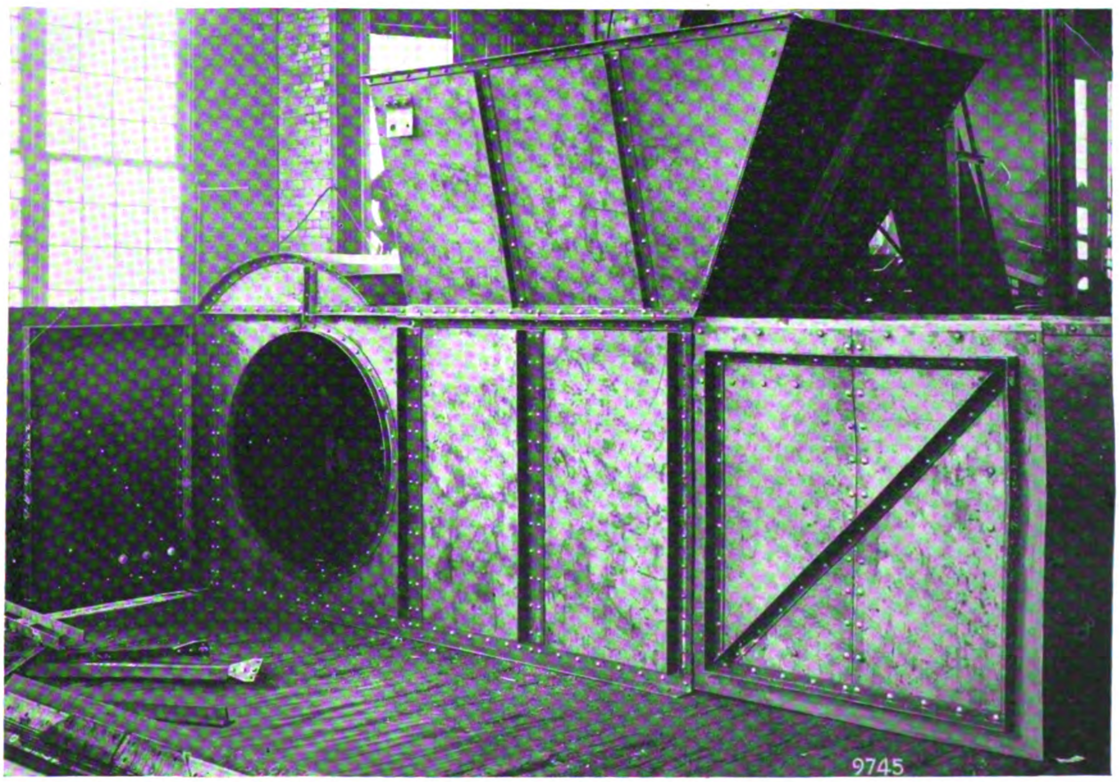


This Double Inlet Casing is fitted with steel side drift doors, complete steel side drifts and steel air lock built up in connection with same.

Steel Casings and Drifts



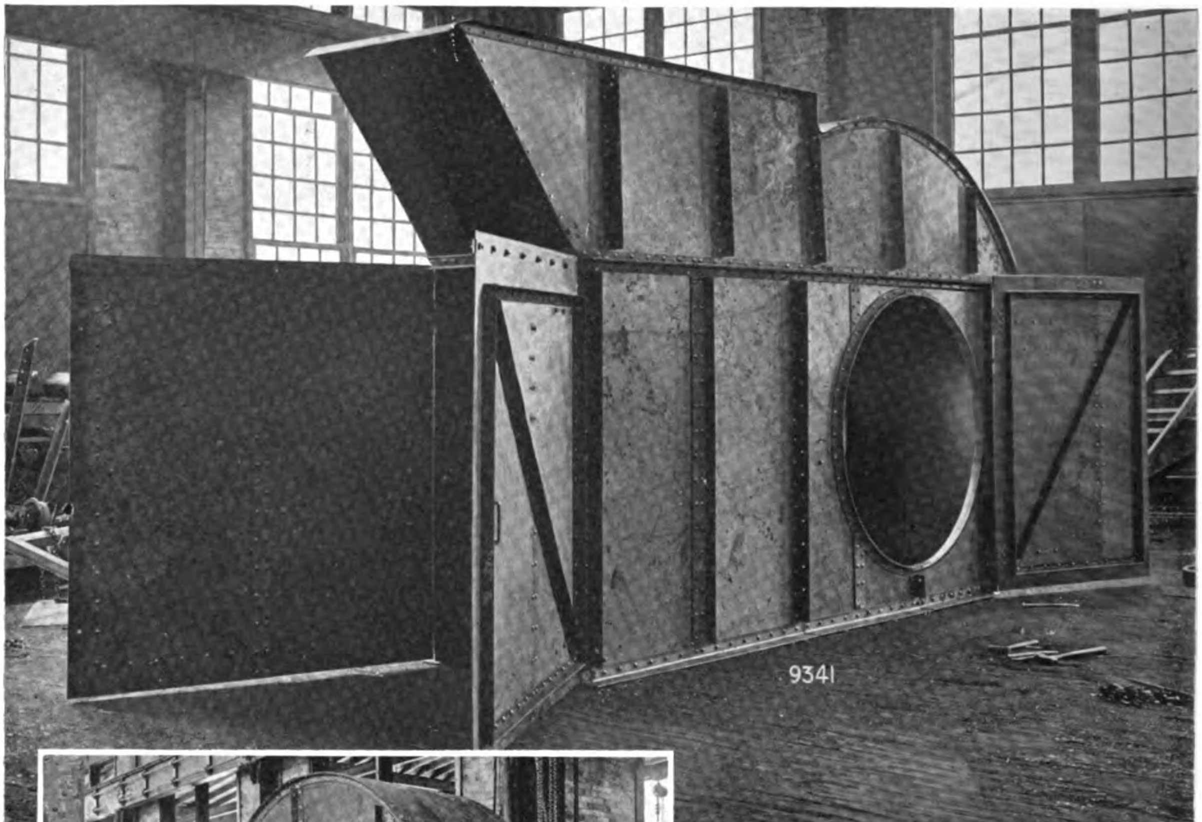
**Above shows a Primarily Blowing Revérsible Casing.
Complete steel side drifts, steel doors and hood extending over air shaft are included.**



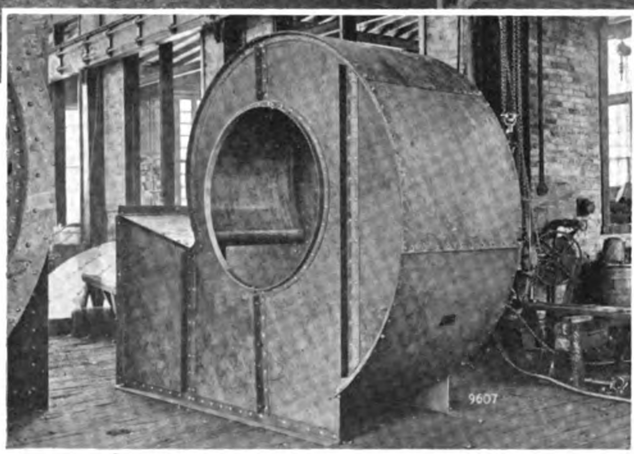
This illustration shows a Double Inlet Exhaust Reversible Casing, fitted with steel side drift doors attached to their respective parts of the Casing.

Mine Ventilating Fans

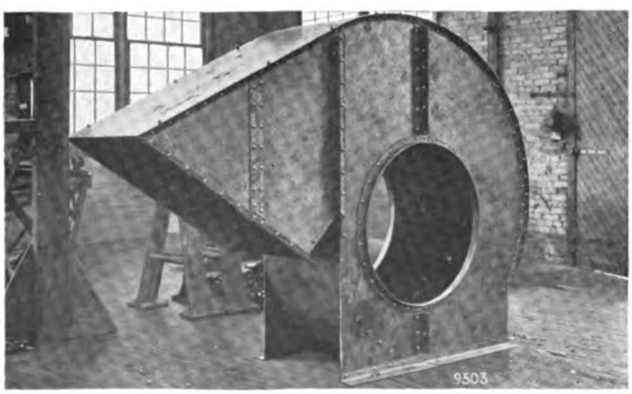
Steel Casings and Drifts



Standard Blowing Reversible Casing with steel side drift doors furnished.

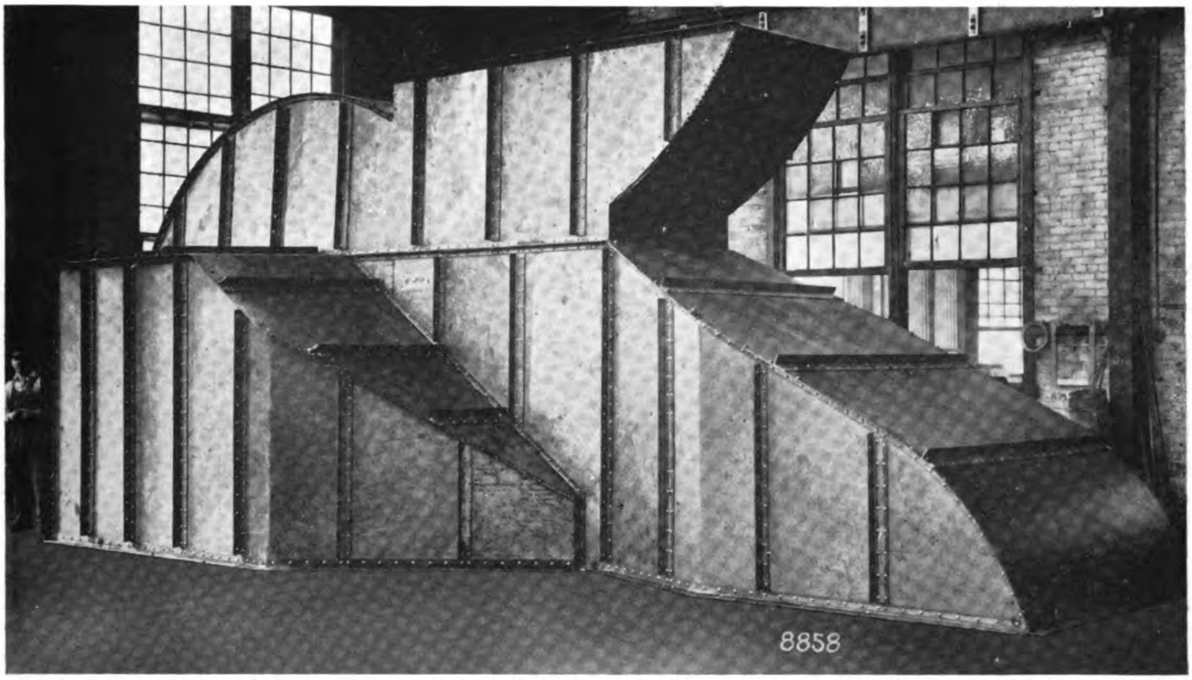


Standard Underthrow Casing for drift mine. The wheel and bearings being supported on cast iron pedestals. Practical to use where space is limited and chain drive is employed.

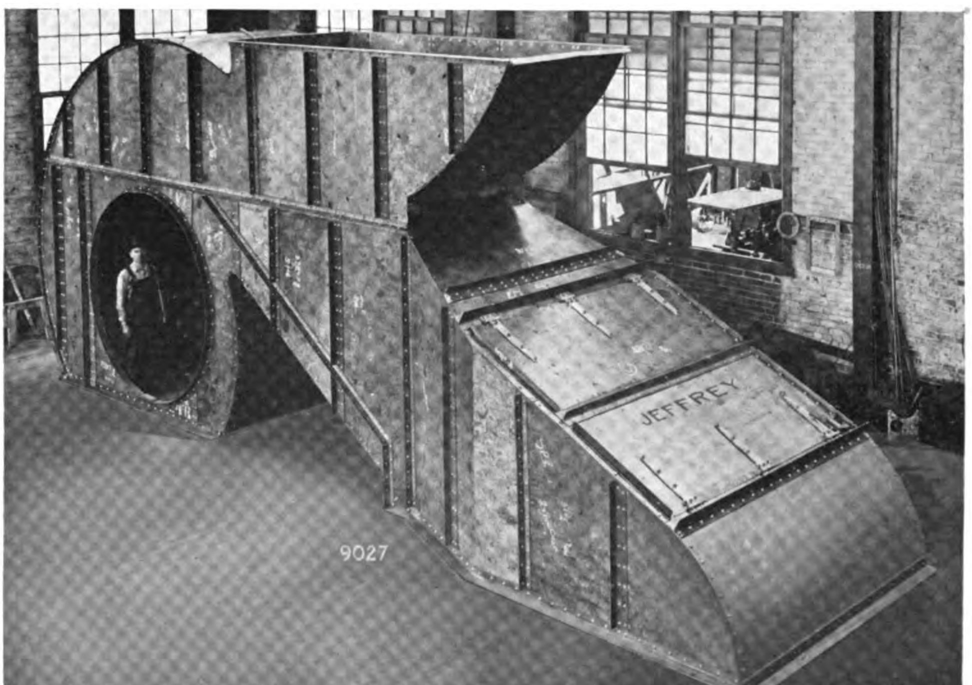


Standard Overthrow Casing for slope mine. May also be used at shaft mine with steel hood extending over same.

Steel Casings and Drifts



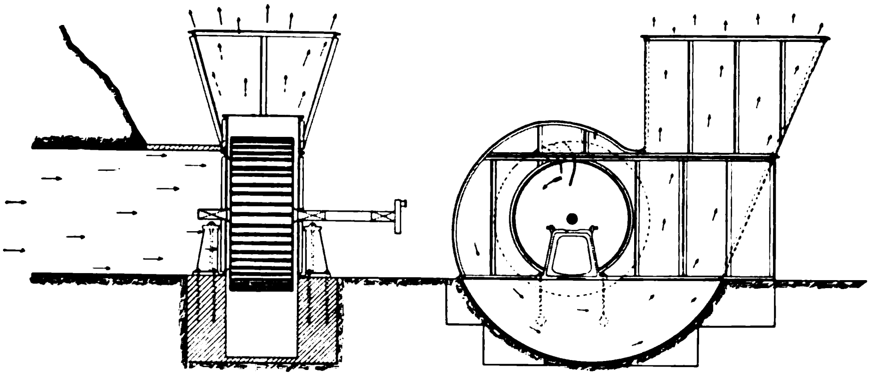
Assembly of a Double Inlet Primarily Blowing Reversible Fan Casing before shipment. The casing is fitted with complete steel side drifts together with steel doors for same and is adapted for installation at a shaft mine. Explosion doors may be provided directly over the air shaft.



Assembly in shop of a Primarily Blowing Reversible Fan Casing arranged for installation at a shaft mine. The hood extending over the air shaft is provided with Explosion Doors.

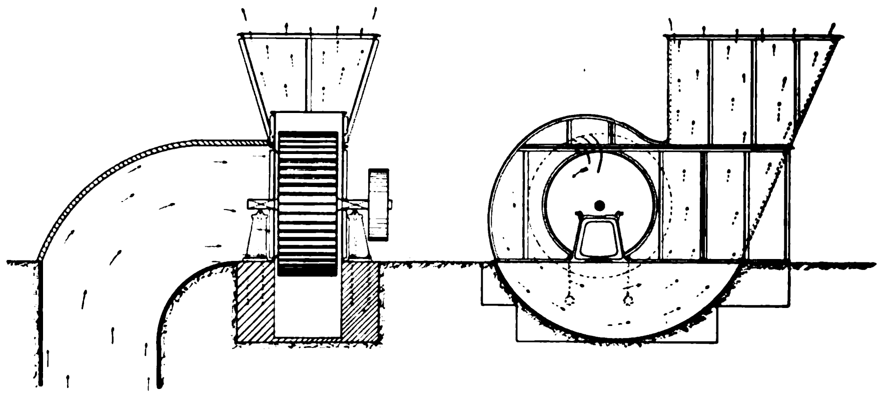
Mine Ventilating Fans

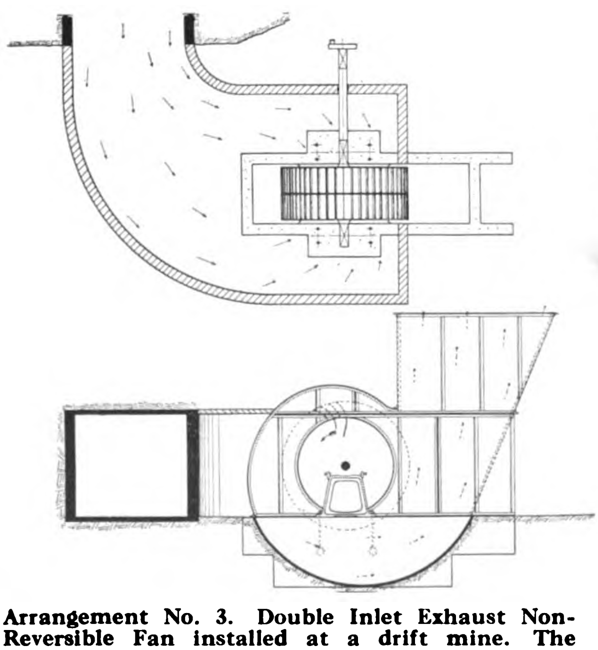
Typical Arrangements of Jeffrey Fans



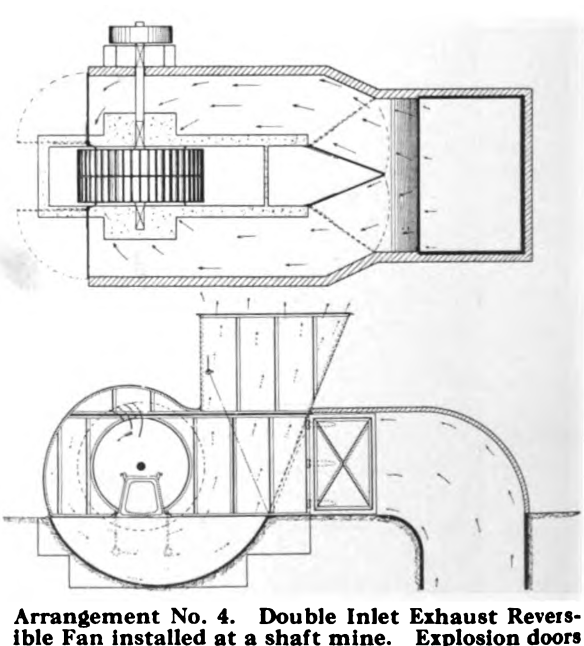
Arrangement No. 1. Single Inlet Exhaust Fan installed at drift mine. The fan may be set at right angles to the mine and arranged for electric drive.

Arrangement No. 2. Single Inlet Fan exhausting from an air shaft. A Single Inlet Exhaust Fan is very applicable where a limited space is available.





Arrangement No. 3. Double Inlet Exhaust Non-Reversible Fan installed at a drift mine. The installation is shown at right angles.

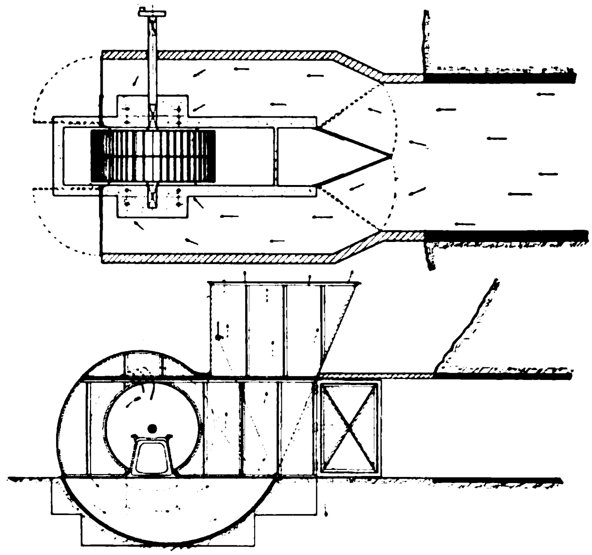


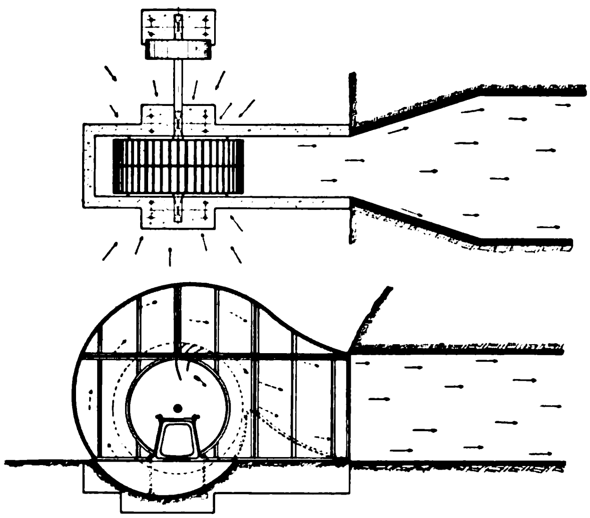
Arrangement No. 4. Double Inlet Exhaust Reversible Fan installed at a shaft mine. Explosion doors may be placed at top of air shaft.

Mine Ventilating Fans

Typical Arrangements of Jeffrey Fans—Continued

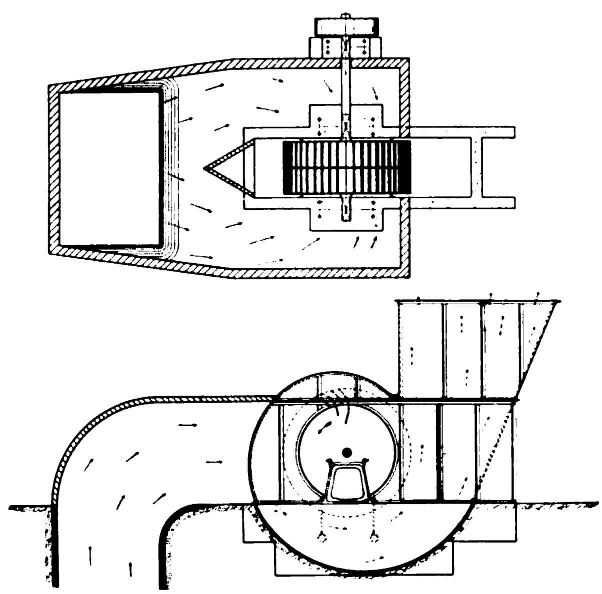
Arrangement No. 5. Double Inlet Primarily Exhaust Reversible Fan for a drift mine. The installation may be made at right angles to the mine opening.





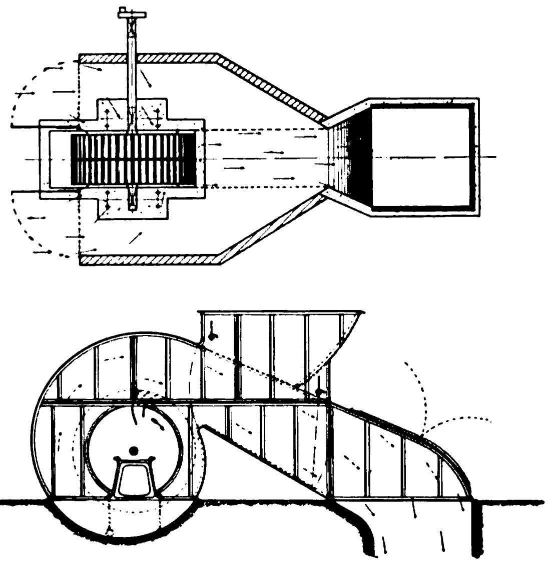
Arrangement No. 6. Double Inlet Blowing Fan for installation at a drift mine. It may be installed at right angles if provided with a good curve.

Arrangement No. 7. Double Inlet Exhaust Non-Reversible Fan installed at a shaft mine. Explosion doors may be placed at top of air shaft.

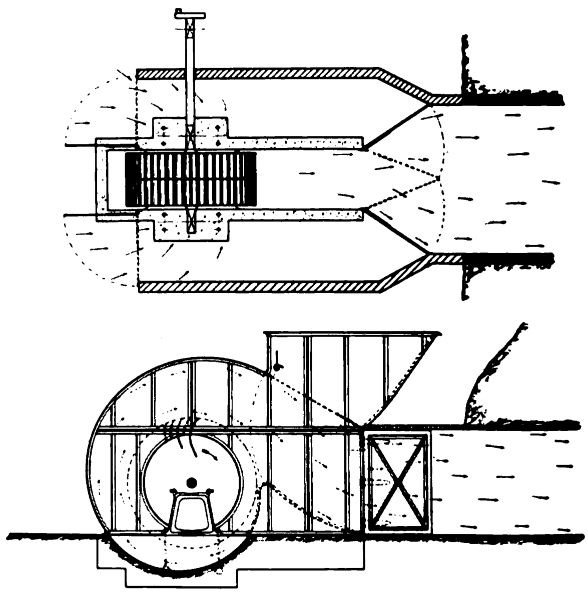


Mine Ventilating Fans

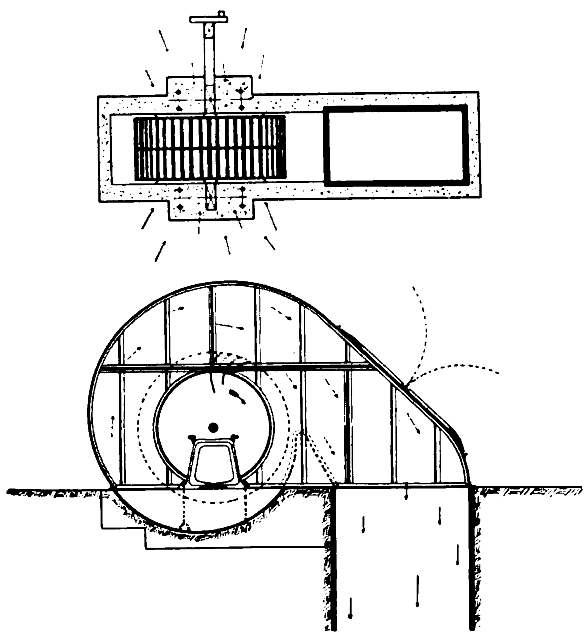
Typical Arrangements of Jeffrey Fans—Continued



Arrangement No. 8. Double Inlet Primarily Blowing Reversible Fan for a shaft mine. Explosion doors are used directly over the air shaft. This arrangement is not recommended for fans less than 10′ diameter.



Arrangement No. 9. Double Inlet Primarily Blowing Reversible Fan installed at a drift mine. The installation may be made at right angles to mine opening if provided with a good curve.



Arrangement No. 10. Double Inlet Blowing Fan for installation at a shaft mine. Explosion doors are provided in the casing directly over the air shaft.

Information Desired With Inquiry

Inquiries or requests for estimates should, so far as possible, contain the following information:—

1. The maximum volume of air required?

2. What pressure do you wish us to figure for this volume?

3. Will the main duty of the fan be blowing or exhausting?

4. Do you wish the fan built reversible type?

5. Whether the fan is to be driven by an engine or motor; and if by the former, give steam pressure and approximate length of steam line; if driven by a motor, state whether the current is direct or alternating and give voltage. If alternating, give phase and cycle.

6. Do you wish us to include engine or motor in our quotation; if so, do you have a preference for any particular make?

7. Is the air way a drift, shaft or slope? Give dimensions of same inside of timbers.

8. Whether you prefer a double or single intake fan, or shall we figure on what we find best for your particular installation?

9. It is very important if you have an old mine, that you give us the volume of air now obtained and present water gauge.

10. Refer to any particular installation shown in this catalog that would be well adapted to your location. Note the general line drawings shown on pages 724, 725, and 726.

11. We shall be pleased to receive a drawing showing the general layout of your mine, location of fan and any other information which might assist us in determining the fan best adapted to your special requirements.

We shall be glad to send an expert to your mine, who will go over the ventilating problem with you and submit proper plans and specifications for your work.

The installation of a fan is an important step and it is to your interest as well as to ours that full information as far as possible be given. Thousands of dollars are wasted annually because many mines are ventilated by fans designed for a much larger capacity than the mine will pass at the specified pressure.

We desire to emphasize the necessity of giving full data, as asked for in the 9th question, if an old fan is now ventilating the mine. Care should be exercised in measuring the pressure produced and the volume delivered by the present fan. This information will enable us to check the pressure required for the increased ventilation as noted in question No. 2 above.

Results Obtained from Jeffrey Stepped Multi-Bladed Fan

The table on following page has been compiled to give the Mine Superintendent, Manager or those interested in this line of work a comprehensive idea of the results obtained from various sizes of Jeffrey Stepped Multi-Bladed Mine Fans.

It is understood that the widths of the Fans may be changed to meet other conditions: that is, a fan may be built wider to economically handle a larger volume of air at the same gauge, or on the other hand the fan may be built narrower to handle a smaller volume at the same gauge while the speed of the Fan remains constant.

The table shows the results which may be expected from Double Inlet fans under average conditions. The capacities and horse-powers for Single Inlet Fans are approximately 50% of those given for Double Inlet types, while the gauge and speed remain constant for each type of fan.

Mine Ventilating Fans

Table of Capacities of Standard Width Fans

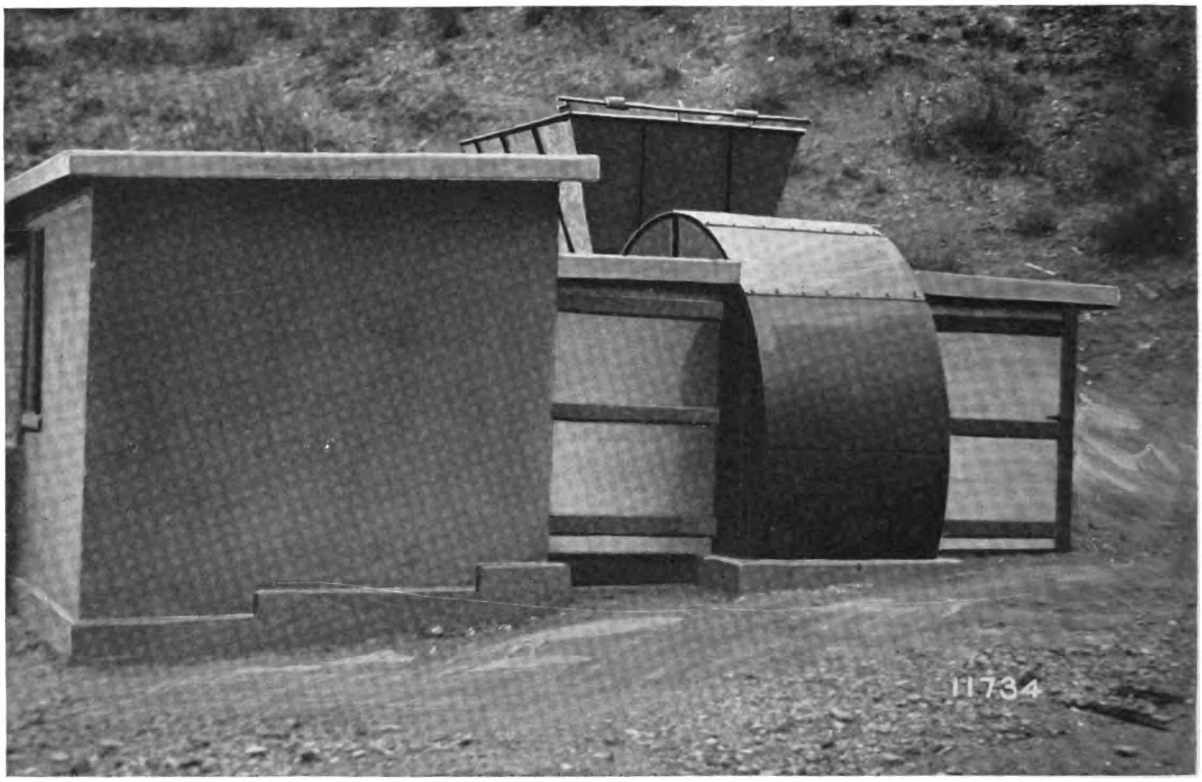
Diam. of Wheel	Water Gauge	¼"	½"	¾"	1"	1¼"	1½"	1¾"	2"
2 ft.	Cu. Ft.	4500	6400	7800	9000	10000	11000	12000	13000
	R. P. M.	285	400	500	572	615	700	760	800
	B. H. P.	.3	.9	1.6	2.4	3	4.5	5.5	7
3 ft.	Cu. Ft.	10000	15000	18000	21000	23000	25000	27000	30000
	R. P. M.	185	260	315	370	415	450	490	520
	B. H. P.	.6	1.8	3	5	7	9	12	15
4 ft.	Cu. Ft.	16000	22000	27000	32000	35000	39000	42000	45000
	R. P. M.	138	195	235	275	305	335	365	390
	B. H. P.	.9	2.7	4.6	7.5	10	13	17	22
5 ft.	Cu. Ft.	22000	30000	37000	43000	48000	52000	57000	60000
	R. P. M.	108	150	184	215	240	263	284	300
	B. H. P.	1.3	3.5	6	10	14	18	23	27
6 ft.	Cu. Ft.	28000	40000	50000	57000	64000	70000	75000	80000
	R. P. M.	87	120	148	172	192	210	227	240
	B. H. P.	1.7	4.5	8	13	18	24	30	35
7 ft.	Cu. Ft.	36000	50000	62000	72000	82000	90000	95000	100000
	R. P. M.	72	100	125	145	162	177	190	205
	B. H. P.	1.9	5	9.7	15	22	28	35	43
8 ft.	Cu. Ft.	45000	63000	75000	90000	100000	110000	120000	125000
	R. P. M.	62	85	105	123	138	150	162	172
	B. H. P.	2.4	6.3	12	19	27	35	43	52
9 ft.	Cu. Ft.	50000	70000	85000	100000	110000	122000	130000	140000
	R. P. M.	55	76	98	109	122	134	145	155
	B. H. P.	2.7	7	15	21	30	38	50	60
10 ft.	Cu. Ft.	57000	80000	100000	114000	130000	140000	150000	160000
	R. P. M.	50	69	85	98	110	120	130	140
	B H. P.	3	8.4	16	24	34	44	56	70
11 ft.	Cu. Ft.	75000	100000	125000	145000	160000	180000	190000	200000
	R. P. M.	45	63	74	90	100	110	119	127
	B. H. P.	3.8	10	19	30	41	58	70	84
12 ft.	Cu. Ft.	87000	120000	145000	173000	195000	210000	230000	245000
	R. P. M.	41	57	70	82	90	100	108	115
	B. H. P.	4.5	12	23	36	52	68	85	100
14 ft.	Cu. Ft.	100000	140000	170000	200000	223000	245000	265000	280000
	R. P. M.	35	50	60	70	78	85	93	100
	B. H. P.	5	15	26	42	59	75	96	120
16 ft.	Cu. Ft.	115000	160000	200000	230000	255000	280000	300000	325000
	R. P. M.	30	43	52	61	68	75	81	86
	B. H. P.	6	17	32	48	67	90	110	136

Mine Ventilating Fans

Table of Capacities of Standard Width Fans—(Continued)

Diam. of Wheel	Water Gauge	2¼"	2½"	3"	3½"	4"	4½"	5"	5½"	6"
2 ft.	Cu. Ft.	13500	14000	15500	17000	18000	19000	20000	21000	22000
	R. P. M.	870	910	1000	1070	1150	1220	1300	1350	1400
	B. H. P.	8	10	13	16	20	23	28	32	35
3 ft.	Cu. Ft.	32000	34000	36000	39000	42000	45000	47000	50000	52000
	R .P. M.	550	585	640	690	740	790	830	870	900
	B. H. P.	17	20	26	32	40	50	57	65	75
4 ft.	Cu. Ft.	48000	51000	54000	60000	64000	68000	72000	75000	78000
	R. P. M.	415	435	470	513	550	585	620	650	675
	B. H. P.	26	30	40	50	60	72	85	100	110
5 ft.	Cu. Ft.	64000	68000	75000	80000	85000	90000	95000	100000	105000
	R. P. M.	324	340	370	400	430	456	480	500	525
	B. H. P.	34	40	52	65	80	90	110	125	145
6 ft.	Cu. Ft.	85000	90000	100000	107000	114000	120000	128000	134000	140000
	R. P. M.	258	272	296	320	345	365	385	400	420
	B. H. P.	44	52	65	84	104	124	147	165	190
7 ft.	Cu. Ft.	105000	115000	125000	135000	144000	150000	160000	170000	180000
	R. P. M.	218	230	250	270	290	310	325	345	355
	B. H. P.	50	60	78	100	120	142	170	200	225
8 ft.	Cu. Ft.	130000	137000	150000	162000	175000	190000	195000	200000	210000
	R. P. M.	185	195	213	230	245	260	275	287	300
	B. H. P.	65	75	96	125	150	178	214	242	276
9 ft.	Cu. Ft.	150000	158000	175000	187000	200000	212000	225000	235000	245000
	R. P. M.	165	173	190	205	218	234	245	256	268
	B. H. P.	73	84	110	140	168	200	240	270	305
10 ft.	Cu. Ft.	170000	180000	200000	210000	230000	240000	255000	265000	280000
	R. P. M.	148	156	170	184	196	208	220	230	240
	B. H. P.	83	97	125	155	192	230	272	310	355
11 ft.	Cu. Ft.	220000	230000	250000	270000	290000	310000	325000	340000	360000
	R. P. M.	135	140	156	170	180	192	200	210	220
	B. H. P.	100	120	157	200	240	290	340	390	450
12 ft.	Cu. Ft.	260000	275000	300000	325000	350000	370000	390000	400000	425000
	R. P. M.	124	129	140	150	165	174	184	192	200
	B. H. P.	122	140	190	240	295	355	420	460	535
14 ft.	Cu. Ft.	300000	320000	350000	375000	400000	425000	450000	470000	490000
	R. P. M.	106	110	122	130	140	150	158	165	172
	B. H. P.	143	168	220	275	335	400	475	540	617
16 ft.	Cu. Ft.	345000	365000	400000	430000	460000	490000	510000	540000	560000
	R. P. M.	92	97	106	114	122	130	137	142	150
	B. H. P.	164	192	250	315	387	460	540	625	715

Mine Ventilating Fans



Installation of a 10' x 5' Double Inlet Primarily Exhaust Reversible Fan.

Jeffrey Fans Are Designed For Individual Mine.

THE Fan installations shown on the following pages are representative of the many thousand installed throughout the mining regions of the world. The fans are built to meet every condition pertaining to the ventilation of mines and general ventilating purposes.

Four Types of Installations

In general, there are four distinct types of installations as follows: Blowing, Exhaust, Primarily Blowing Reversible, Primarily Exhaust Reversible.

The Reversible fans are designated "Primarily" for the main duty which the fan is to perform. Where the main duty of the fan is blowing but may be reversed when necessary, it is to the operator's direct advantage to have the fan built as a Primarily Blowing Reversible fan, having an overthrow casing therefore discharging the air directly toward the mine. On the other hand where the main duty of the fan is exhausting, it is desirable to have an underthrow fan to discharge the air vertically through an expansion chimney designated as a Primarily Exhaust Reversible fan.

Fans Built for Direct Connection to Engine or Belt Driven

The fans are built for direct connection to an engine and in the small sizes they may be direct coupled to a heavy slow speed motor. They are also arranged for belt drive from a motor or an engine and where space is limited a silent chain drive may be used. Direct connected fans to engines are not recommended less than 7 ft. diameter on account of the speed being excessive for the engine.

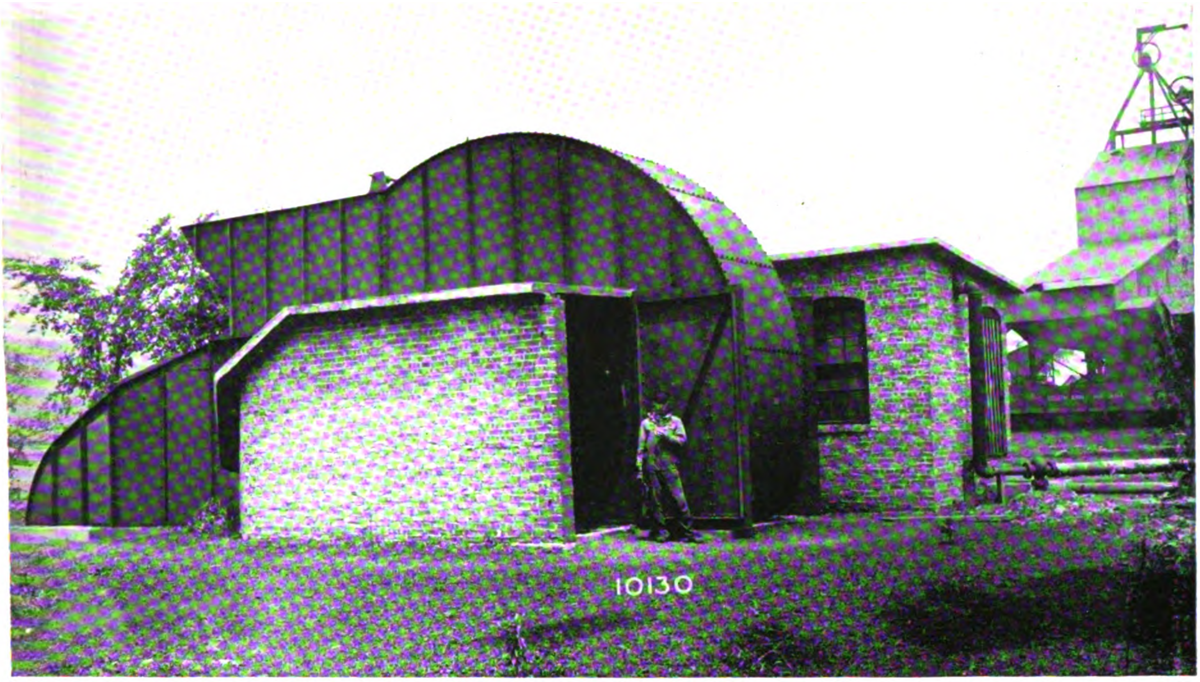
Where an electric motor is used for driving a fan we recommend a variable speed type. Starting duty on a fan is severe, therefore, squirrel cage motors are not desirable, especially in the larger sizes.

Information Required

In asking for prices on Fans it is essential to give all information possible, as requested on page 727. It will pay you to investigate our Centrifugal Booster Fans. They have saved operators thousands of dollars in cleaning up old air ways. Built with capacities from 10,000 cu. ft. to 70,000 cu. ft. See page 745.

The Jeffrey Straitflo Fan is a distinct improvement over anything which has heretofore appeared. It embodies new features; it is self-contained and provided with a conoidal discharge. Simple in operation, easily installed, economical and convenient for drift, shaft or slope mine and general ventilating purposes. See pages 740 to 743.

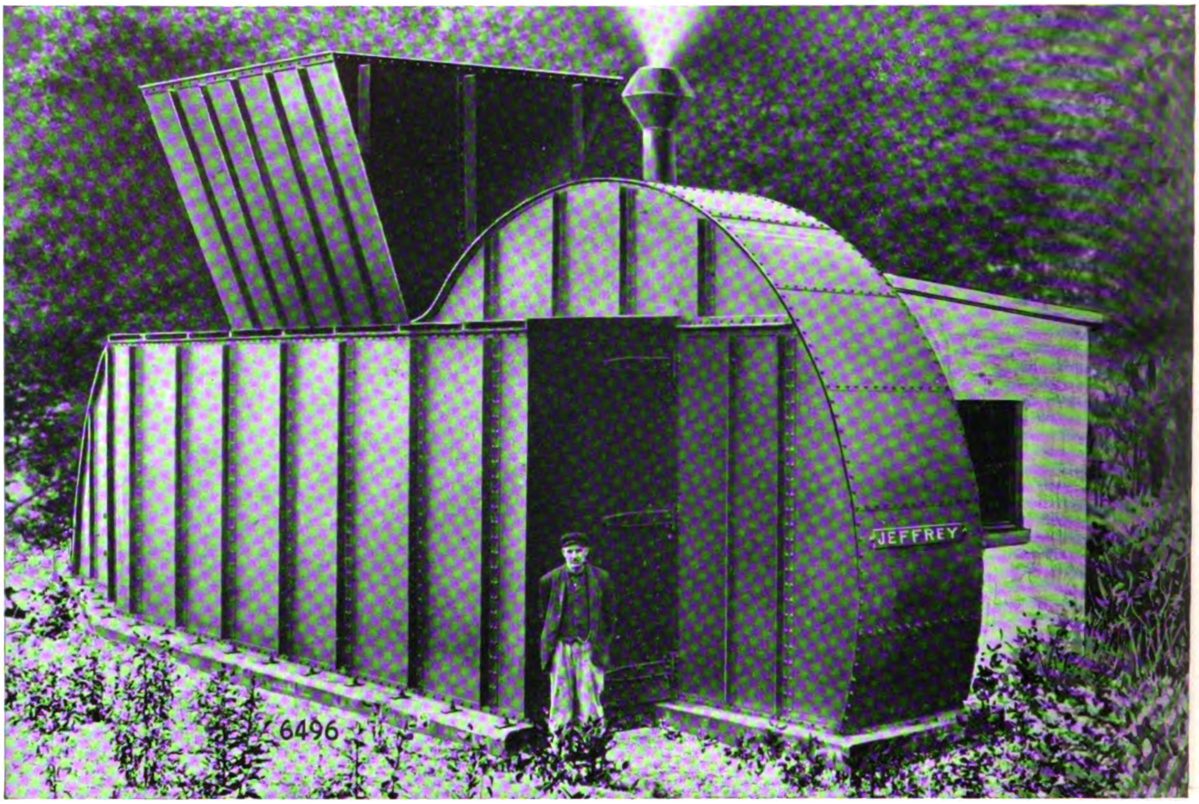
Mine Ventilating Fans



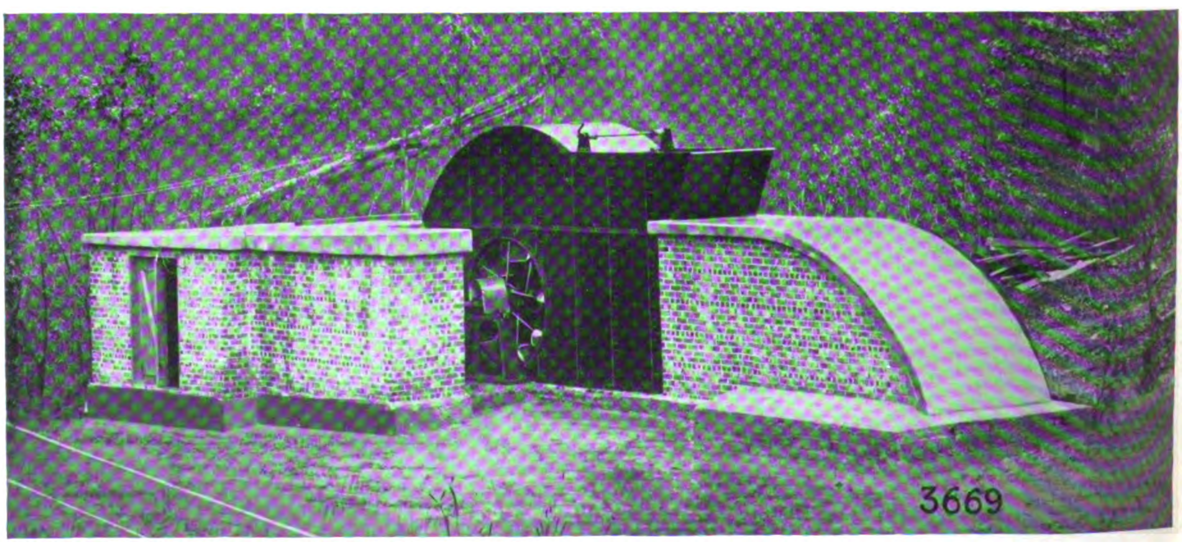
12′ Double Inlet Primarily Blowing Reversible Fan. Normal Capacity 300,000 cu. ft. at 3″ water gauge, 200 H. P.

12′ Double Inlet Primarily Blowing Reversible Fan arranged for direct connection to an engine. This fan can be assembled complete in three or four days. It is fitted with steel side drifts, steel hood extending over air shaft and all steel doors. A typical installation to save time, trouble and expense in installing. Normal capacity 300,000 cu. ft. at 3″ gauge 140 R. P. M.

Mine Ventilating Fans

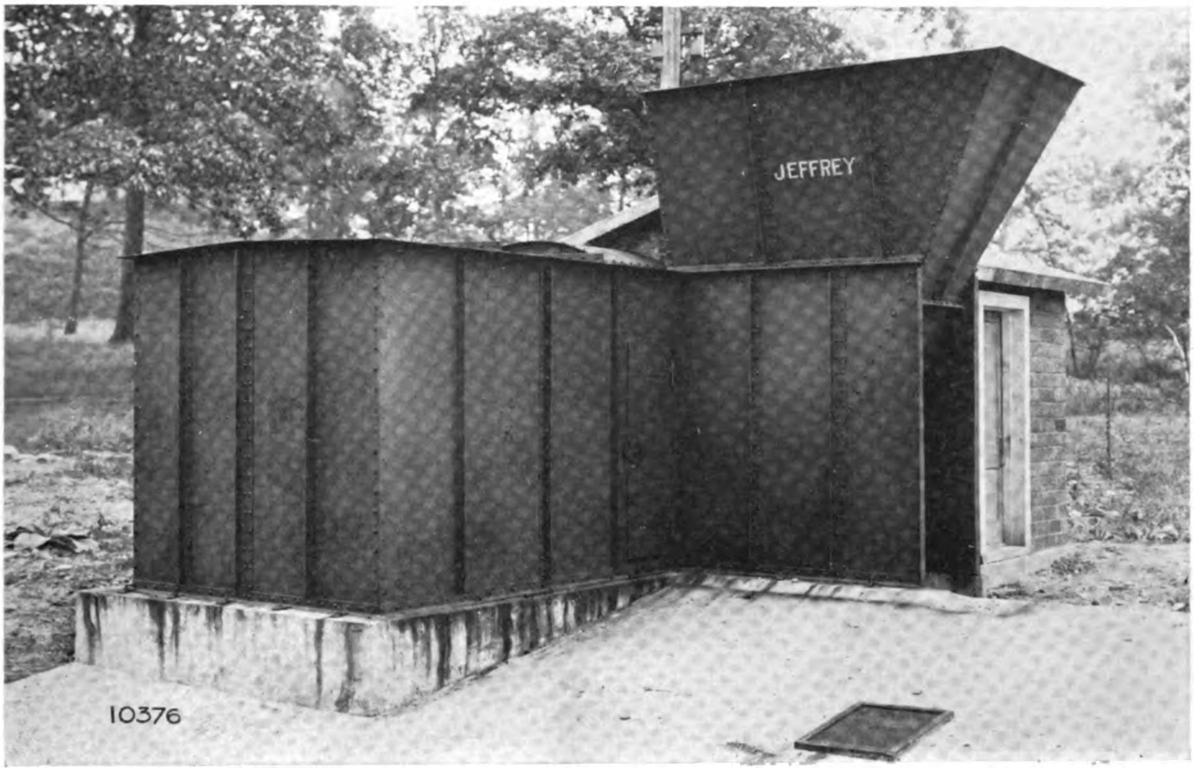


15′ Double Inlet Reversible Fan, arranged for direct connection to a Steam Engine and equipped with complete steel side drifts, steel hood over air shaft and all steel doors for reversing.



10′ Blowing Fan, Belt Driven, with Concrete Hood over Air Shaft.

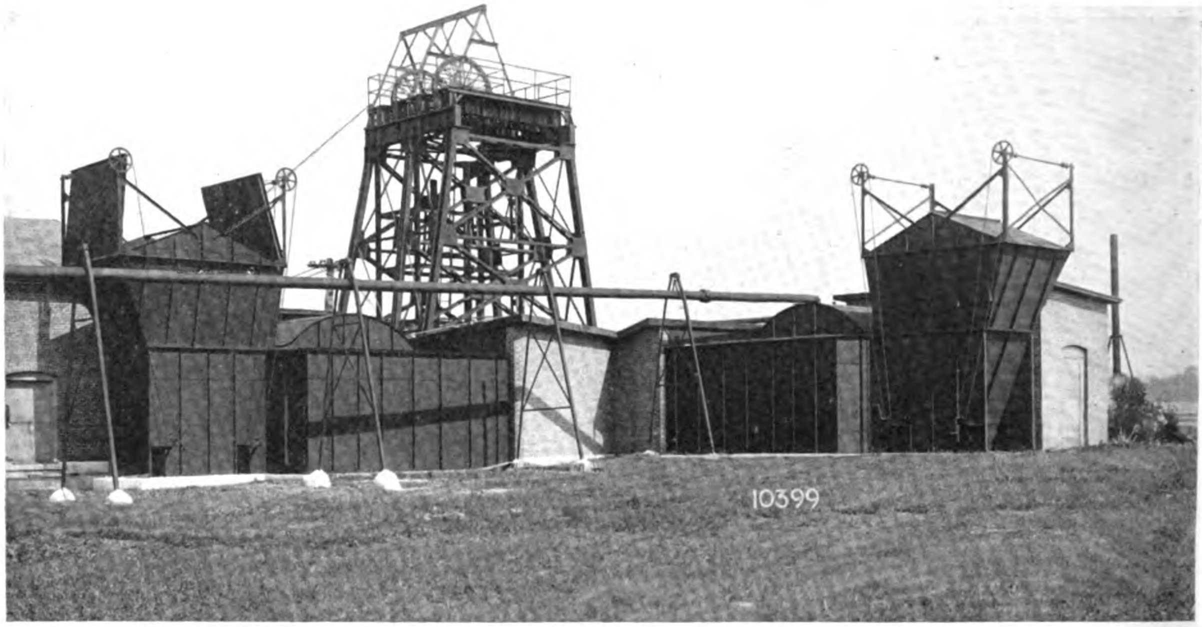
Mine Ventilating Fans



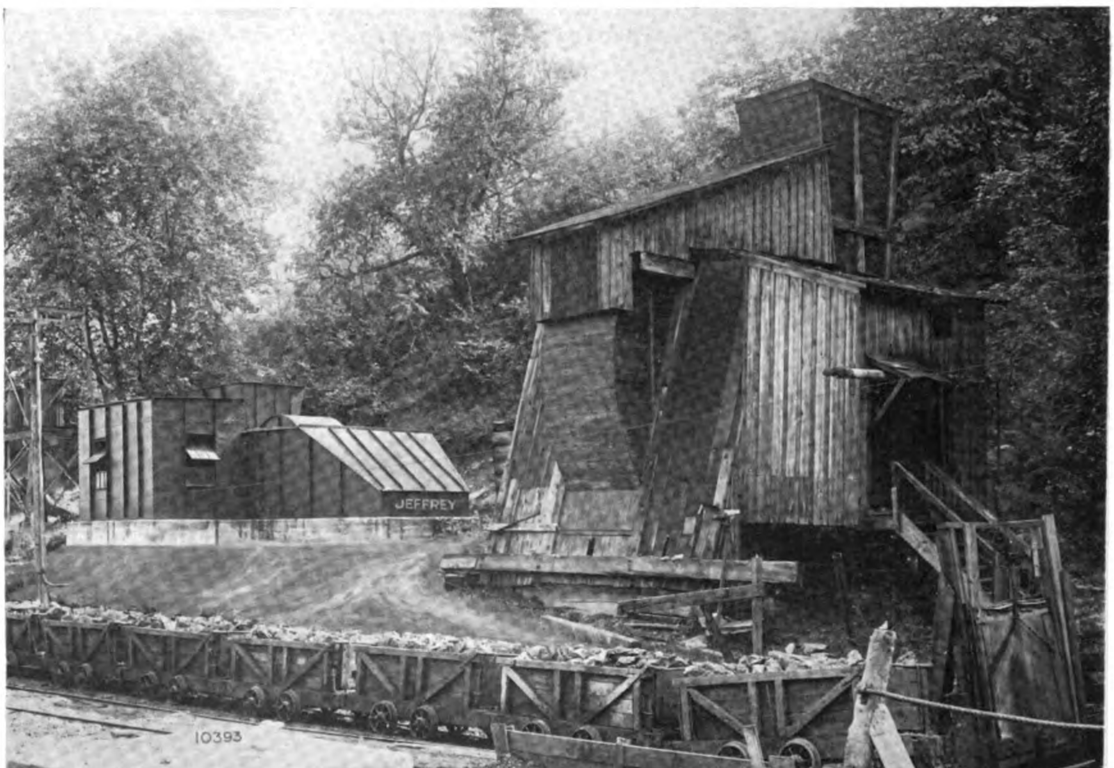
8′ Single Inlet Exhaust Fan fitted with steel hood extending over air shaft. Can be erected in one day. Normal capacity—75,000 cu. ft., 3″ gauge, 210 R. P. M., 50 H. P.

10′ Double Inlet Primarily Exhaust Reversible Fan. Normal capacity—200,000 cu. ft., 3″ gauge, 135 H. P.

Mine Ventilating Fans

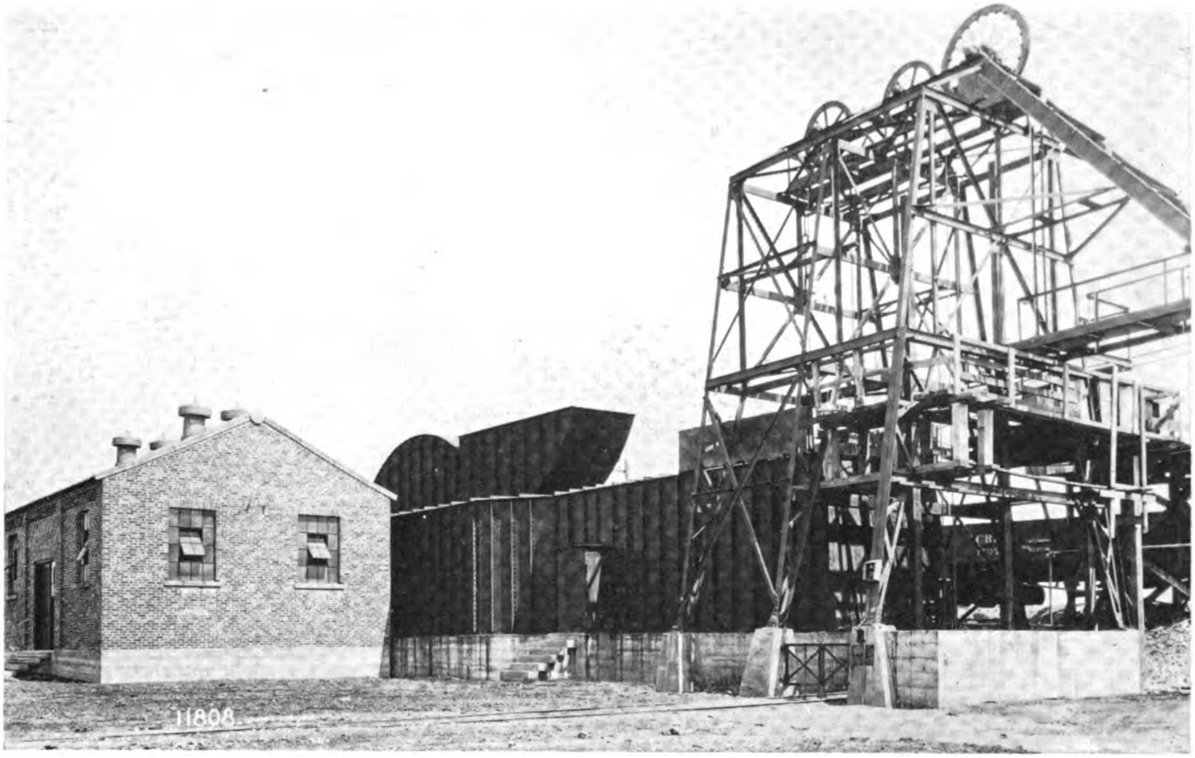


Two 14' Double Inlet Fans installed at the same air shaft. Only one fan is operated at a time—the other being held in reserve in case of emergency. Both are furnished with steel side drifts and arranged for direct connection to steam engines.

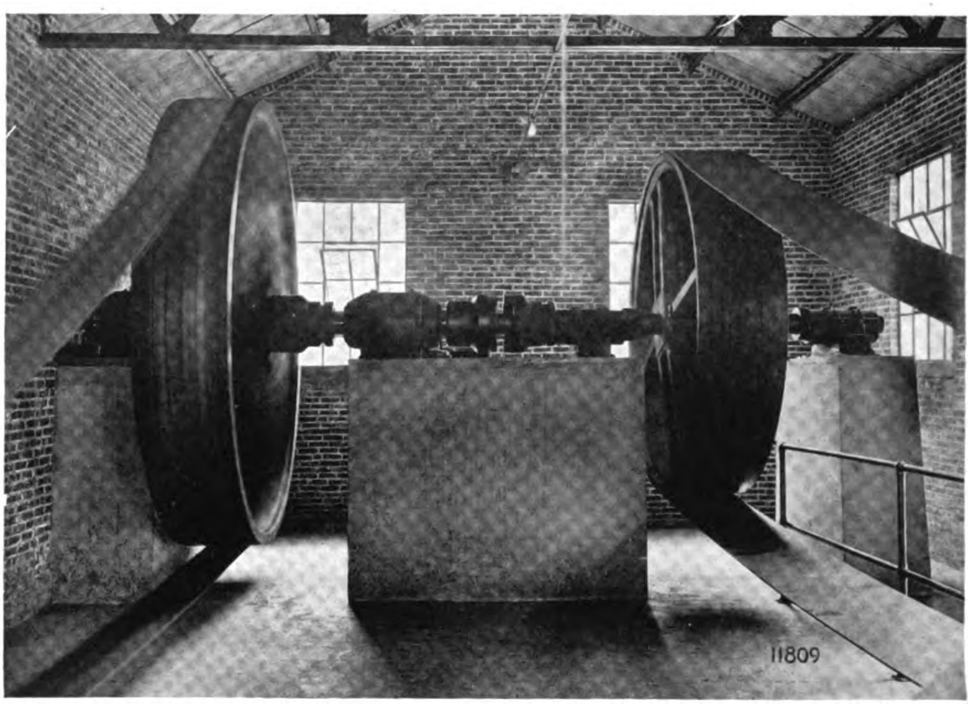


8' Exhaust Fan fitted with steel side drifts, steel hood over air shaft, and steel motor house, making it completely fireproof. This fan displaces a 20' Guibal Fan at a yearly saving of $3000.00 in power bills. Normal capacity is 150,000 cu. ft. at 3" gauge.

Mine Ventilating Fans

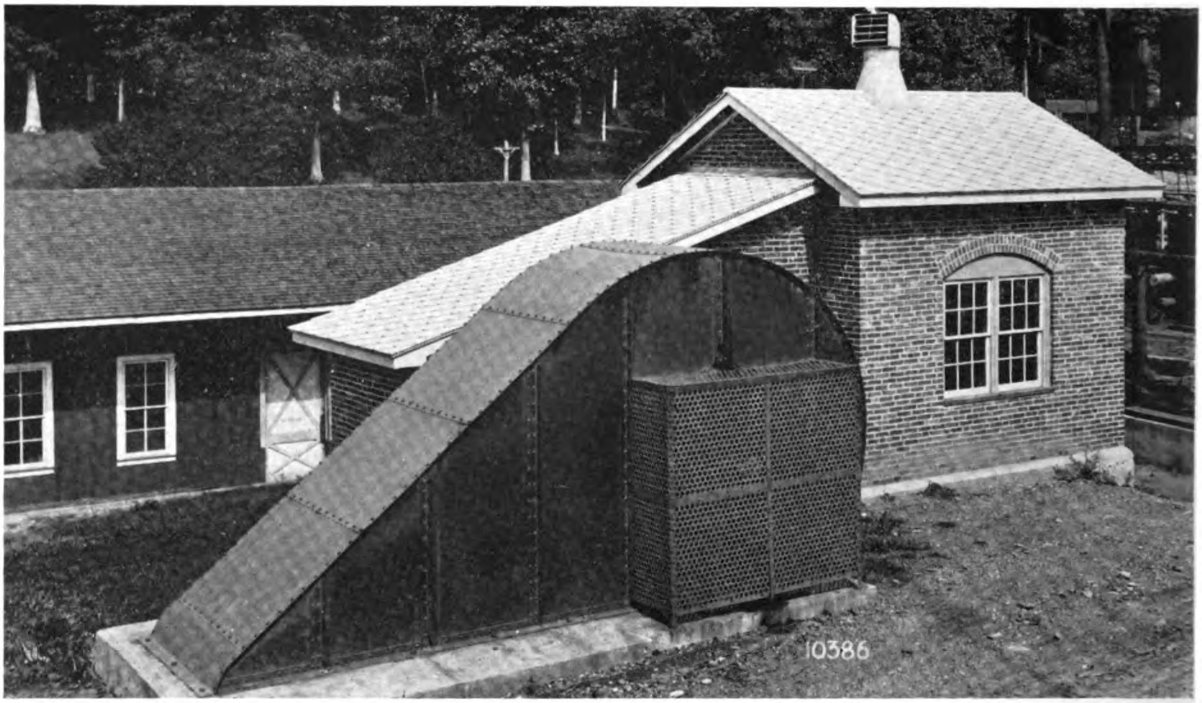


16′ Fan installed with complete steel side drifts, steel hood extending over air shaft and all steel doors.

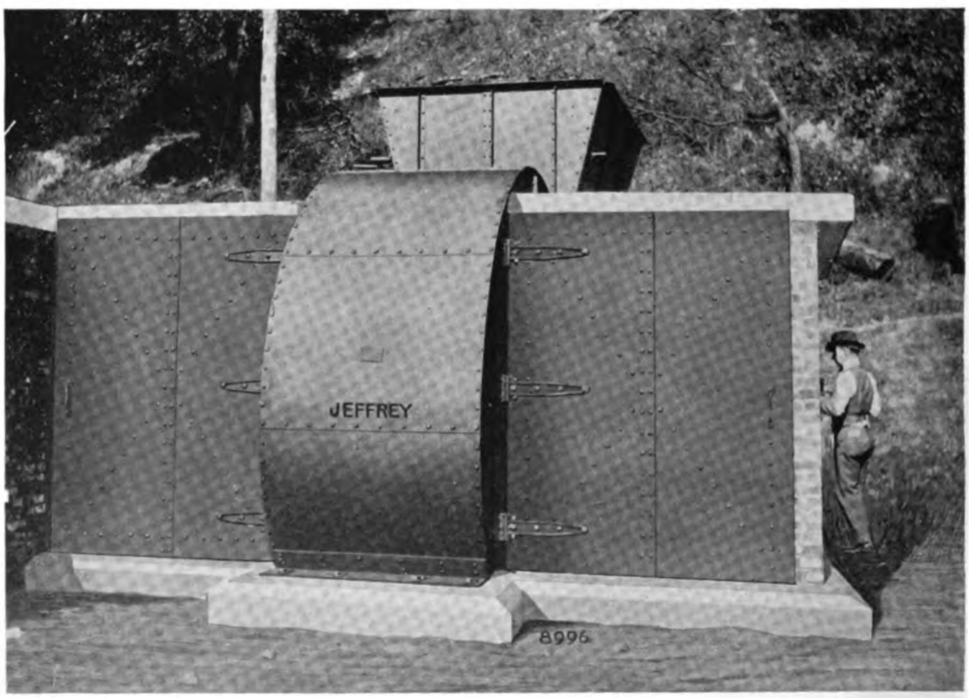


Auxiliary Drive for Fan illustrated above.

Mine Ventilating Fans



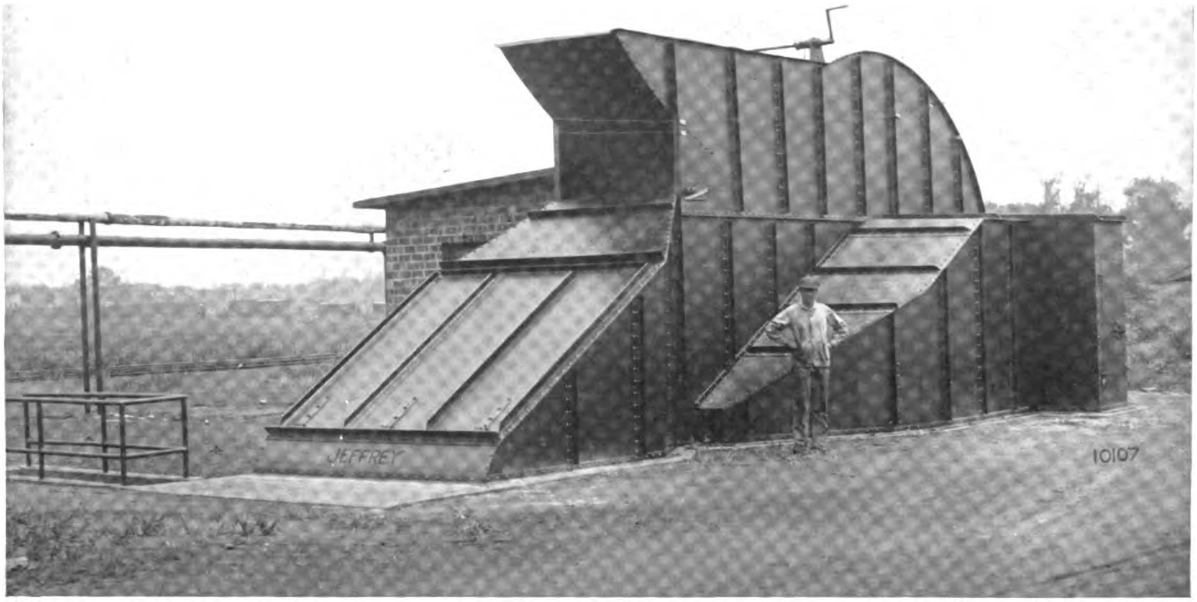
A Jeffrey 6' Double Inlet Blowing Fan.



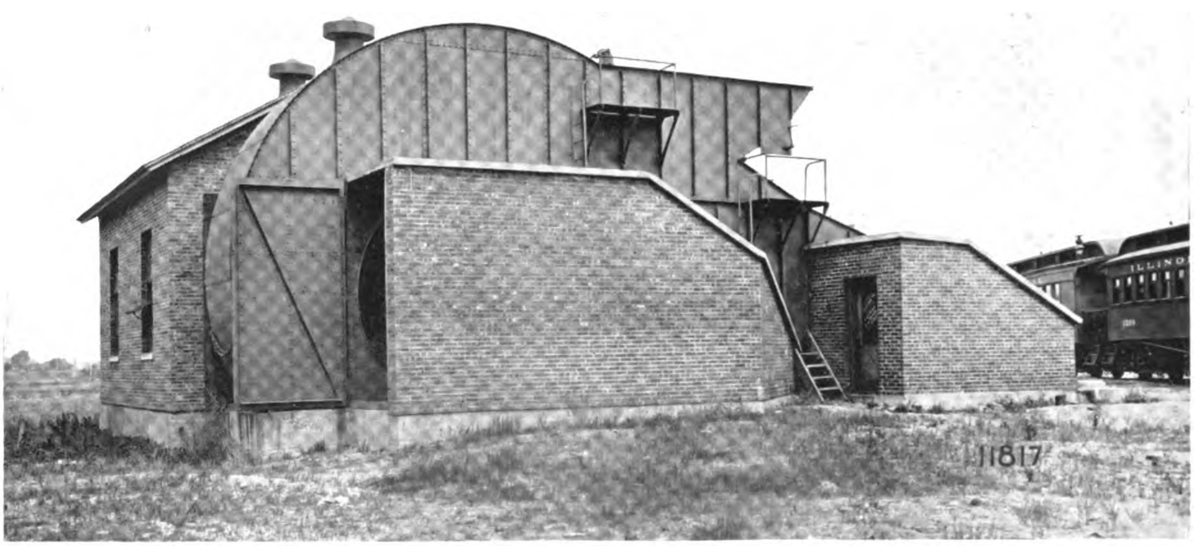
An 8' x 3' x 6" Double Inlet Reversible Fan which produced the following results:

1—Speed of Fan.....212 R. P. M.
2—Water Gauge.....3 inches
3—Volume Delivered.....160,000 Cu. Ft.
4—Input to Fan.....89.72 H. P.
5—Output of Fan.....75.64 H. P.
1—Mechanical Efficiency.....84.3%
2—Manometric Efficiency.....81.6%
3—Volumetric Capacity.....431.0%

Mine Ventilating Fans

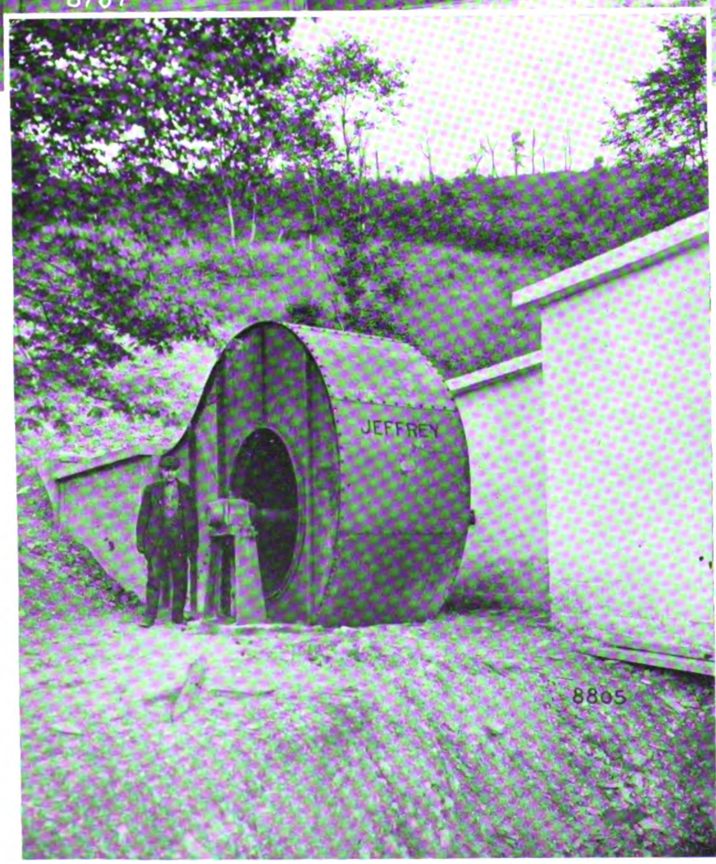


10′ Double Inlet Primarily Blowing Reversible Fan fitted with complete steel side drifts, steel hood extending over the air shaft, and steel air lock. Arranged for direct connection to engine. Normal capacity 200,000 cu. ft. at 3″ water gauge, 130 H. P.



16′ Double Inlet Primarily Blowing Reversible Fan. Capacity 400,000 cu. ft. per minute, 4″ water gauge at 120 R. P. M.

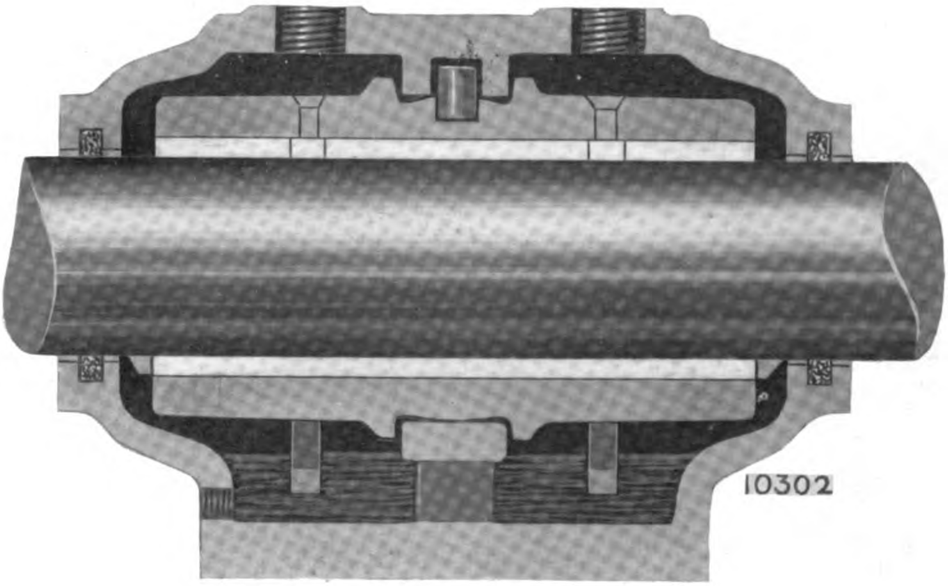
Mine Ventilating Fans



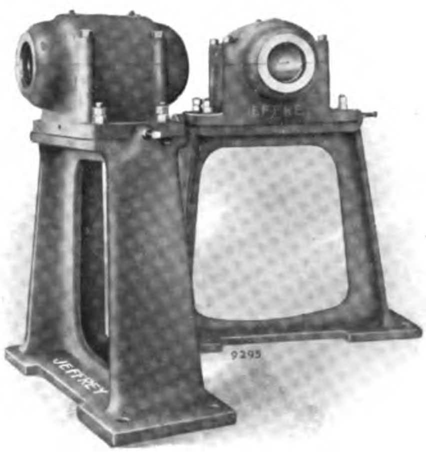
6′ Double Inlet Blowing Fan, Electrically Driven, installed at an air shaft. Normal capacity 100,000 cu. ft. 3″ water gauge, 65 horse-power, 295 R. P. M.

6′ Double Inlet Blowing Fan, Electrically Driven, installed at a drift mine. Normal capacity 100,000 cu. ft. 3″ water gauge, 65 horse-power, 295 R. P. M.

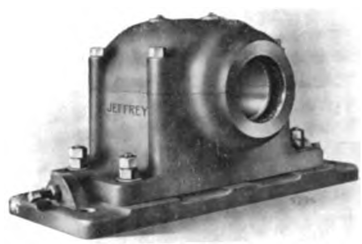
Fan Bearings



A Cross Section of Jeffrey Dust Proof Dynamo Type of Bearings.



Dust Proof Bearing mounted on cast iron stand



View of Bearing showing Cast Iron Base.

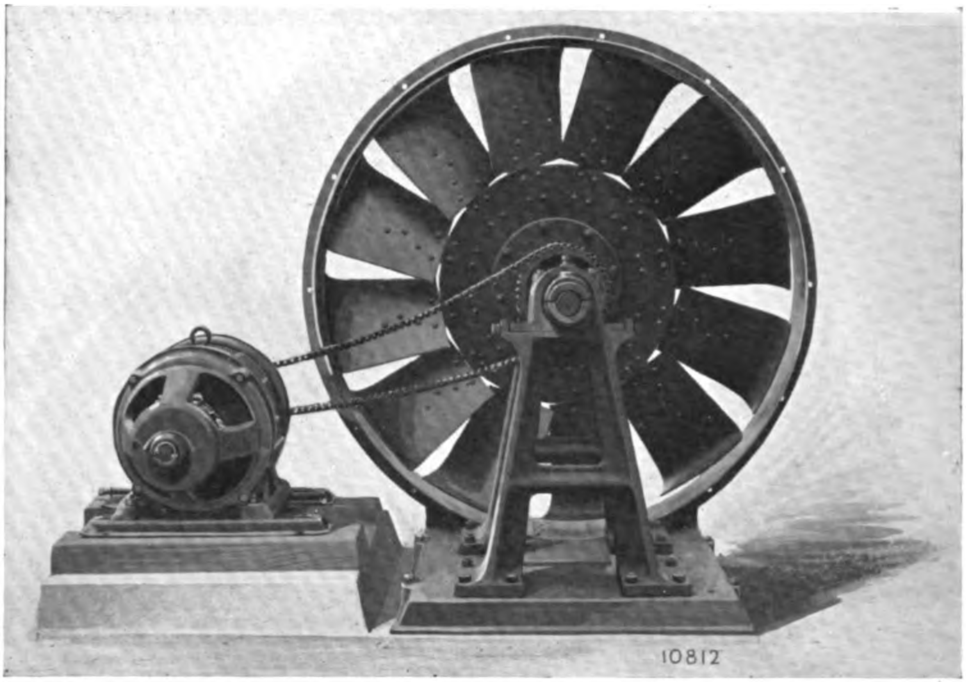
Air Lock Doors, Assembled in Channel Iron Frames Fitted with Latches and Hinges Complete

The most important parts about a fan are the shafts and bearings. All fan shafts are hammered steel about 35 carbon accurately machined. A careful analysis is made of every shaft by our metallurgist.

The bearings are usually of the double ring oiling dust proof, dynamo type fitted with large oil reservoirs and oil wipers. It is very important that a fan be fitted with bearings which exclude the drawing of oil from the reservoirs and distributing it over the foundation work. The dust proof dynamo type prevents this.

Mine Ventilating Fans

Straitflo Type



Straitflo Fan exhausting position—chain driven.

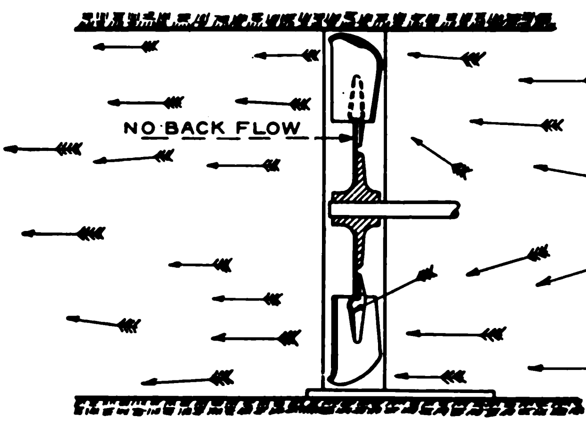


Fig. 1. The Straitflo Fan.

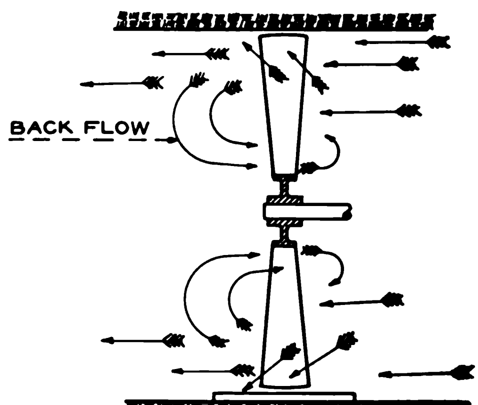


Fig. 2. The Common Type of Fan.

Blade Shaped to Drive Air in Horizontal Path.

A DISTINCT feature of the STRAITFLO fan is the form of the outer ends of the blades. There is always more or less centrifugal action in a direct expulsion fan and in the common type the air is thrown violently against the casing.

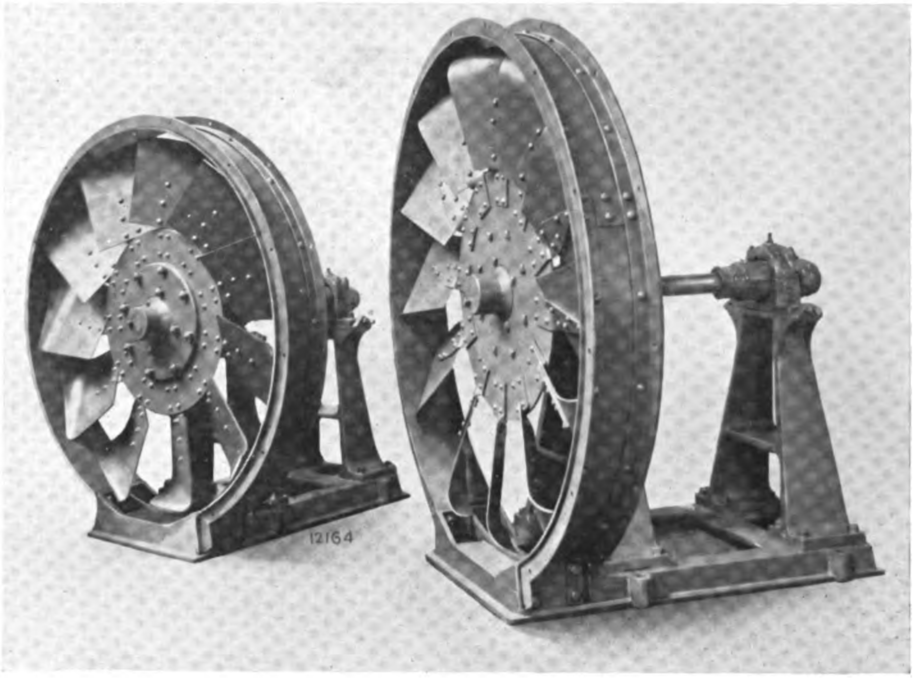
The STRAITFLO fan has a conoidal discharge at the periphery which propels the air in a direct horizontal path, therefore, eliminating many losses.

Eliminates the Backflow of Ordinary Disc Fans

It is a well-recognized fact among users of the common Disc fan that when it is operating against pressure a very distinct back-flow is set up as shown in Figure 2. This is due to the fact that the blades extend down near the center of rotation, the speed of the outer ends is great while the speed of the inner ends is almost negligible. Air always travels where the least resistance is offered, therefore, there is less resistance for the air to pass back through the centre of the fan than through the mine, consequently a churning motion is set up and power is wasted.

Mine Ventilating Fans

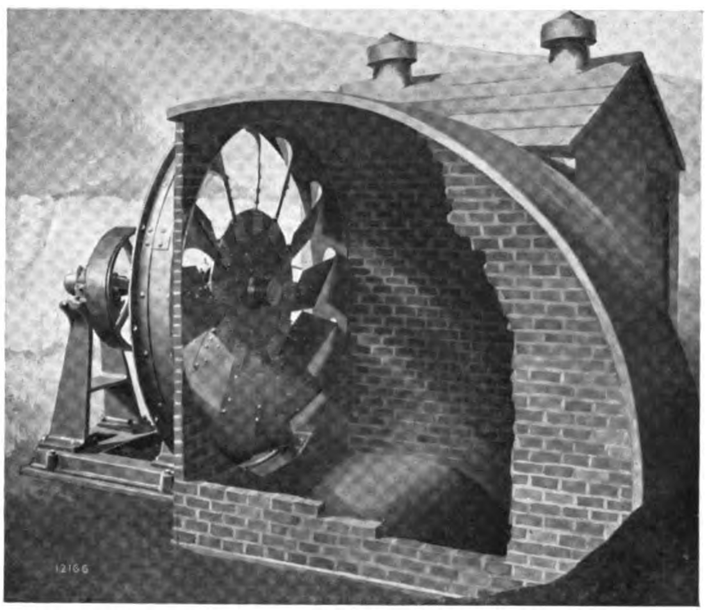
Straitflo Type



Five Foot Straitflo Fan Blowing   Six Foot Straitflo Fan Exhausting

Belted or Silent Chain Driven

THE Fan may be belted or silent chain-driven from a motor or engine. Where compactness of the equipment is desired a silent chain drive is recommended. We do not favor direct-connected units because it places the motor in direct path of the air and subjects the motor to all the elements of the mine or open atmosphere. Complete units which include fan, motor and drive will be furnished, or the fan quoted without motor or drive. In asking for quotations state whether A. C. or D. C. current is available and give voltage. If A. C. is used advise phase and cycle.



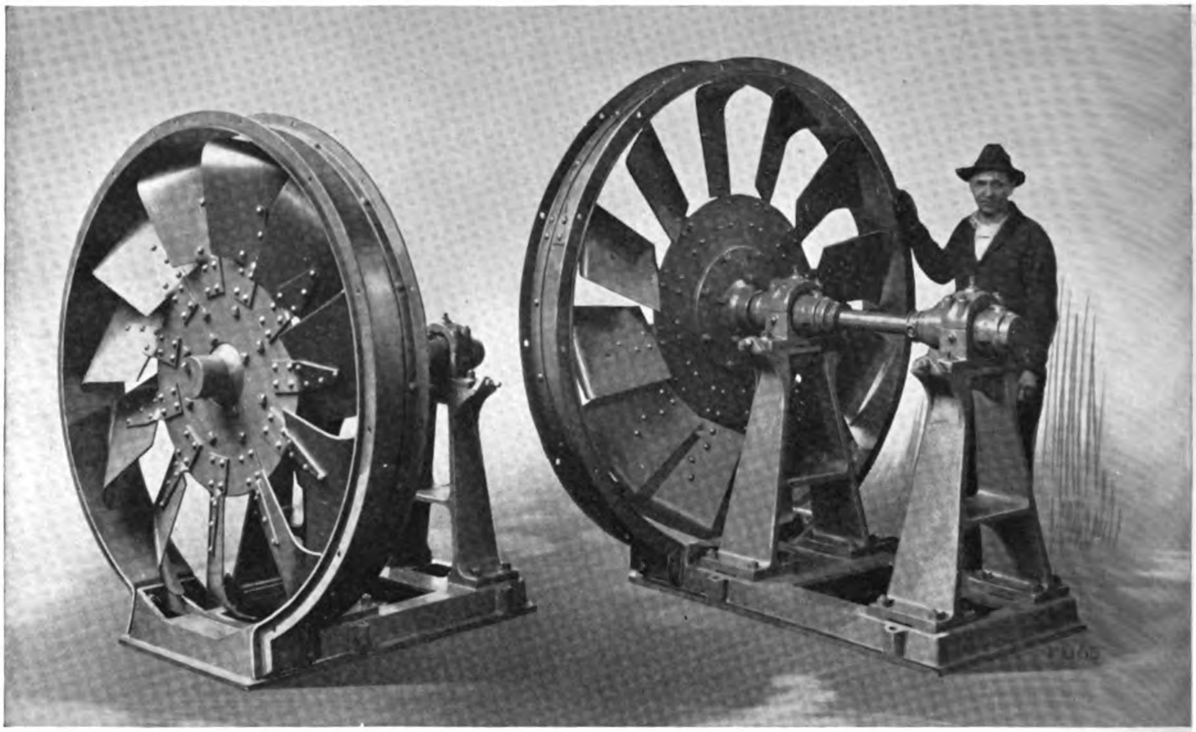
A Straitflo Fan installed at a shaft mine. A portion of the shaft covering is cut away to show the simplicity of the installation for either blowing or exhausting purposes.

Many Uses

There are many practical uses for a fan of this type. It may be used for the total ventilation of small mines or for development purposes of large ones. In many places throughout the mines the current is sluggish and this fan can be well adapted to boosting purposes if the resistance is not too high. Where high resistance is encountered, a booster type as shown on page 745 is recommended. This fan may be used for many other purposes besides the ventilation of mines and boosting. It is found practical for nearly all drying purposes, also for removal of dust, heat and smoke from factory and other buildings.

Mine Ventilating Fans

Straitflo Type



Mounted on Cast Iron Base and Equipped with Roller Bearings.

Roller Bearings

THE most vital part of a fan is the bearings. This fact is too well known by all users to need any further comment. In order to provide the very latest feature along this line, we have equipped all STRAITFLO fans with Roller Bearings as illustrated above. These bearings are self-aligning, mounted on heavy cast iron pedestals, insuring continuous operation at the highest speeds without vibration.

Bearings Accessible

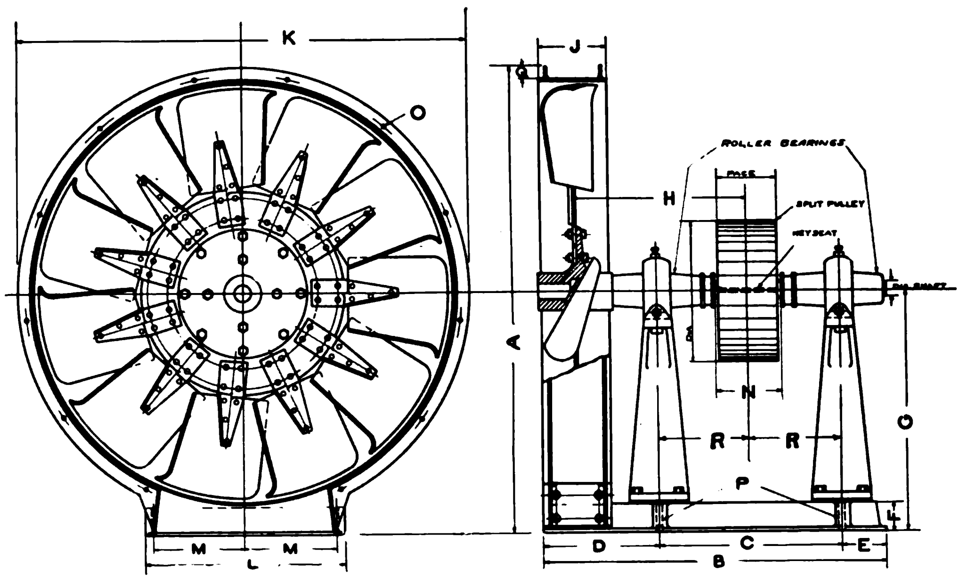
It will be noted that both bearings are mounted on the outside of the fan wheel enabling an attendant to examine same without going into the air course. This is a very desirable feature where the fan is installed at a shaft mine, boosting purposes or even drift mines. It eliminates doors, by passes, and at the same time permits a support for the shaft on each side of the pulley.

Fan Housing

The Fan Housing is rolled to a true circle and is reinforced with angles and may be easily removed from base for moving through mine.

Mine Ventilating Fans

Straitflo Type



General Outline Drawing of Jeffrey Straitflo Fans.

Not to be used for installation purposes. Ask for certified prints.

Table of Dimensions

Diam. of Fan	A	B	C	D	E	F	G	H	J	K
4 Ft.	4'-8 1/4"	3'-11 3/4"	2'-1 1/2"	16 1/4"	6 "	3 3/4"	2'- 5 "	22 1/2"	10"	4'-6 1/2"
5 Ft.	5'-8 13/16"	4'- 4 "	2'-3 "	18 1/2"	6 1/2"	4 1/8"	2'-11 1/2"	2'-1 1/2"	10"	5'-6 5/8"
6 Ft.	6'-9 3/16"	4'-11 3/4"	2'-8 1/2"	19 3/4"	7 1/2"	4 1/8"	3'- 5 3/8"	2'-5 "	10"	6'-7 5/8"
7 Ft.	7'-9 3/16"	4'-11 3/4"	2'-8 1/2"	19 3/4"	7 1/2"	4 1/8"	3'-11 3/8"	2'-5 1/2"	10"	7'-7 5/8"
8 Ft.	8'-9 11/16"	5'- 3 1/2"	2'-9 1/4"	20 7/8"	9 3/8"	4 5/8"	4'- 5 7/8"	2'-6 1/4"	10"	8'-7 5/8"

Table of Dimensions—Continued

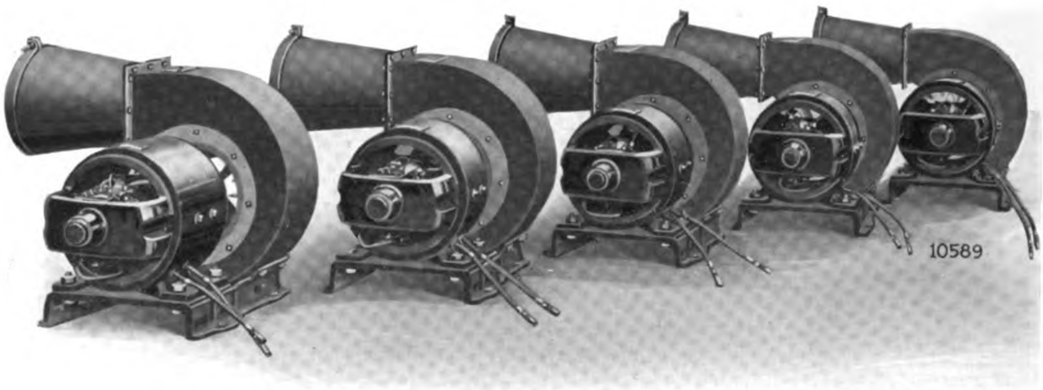
Diam. of Fan	L	M	N	O	P	Q	R	Keyseat	Pulley Dia. x Face	Dia. Shaft	Weight
4 Ft.	2'- 4 "	13 "	10 3/4"	9/16" Dia.	7/8" Hole	2 "	12 3/4"	9/16"x9/32"	14"x5"	2 3/16"	1400
5 Ft.	2'- 5 "	13 1/2"	10 1/4"	9/16" Dia.	7/8" Hole	2 "	13 1/2"	5/8"x5/16"	20"x6"	2 7/16"	1800
6 Ft.	2'-11 3/4"	16 1/2"	13 1/2"	13/16" Dia.	1 1/4" Hole	2 1/2"	16 1/4"	3/4"x3/8"	28"x7"	2 15/16"	2200
7 Ft.	2'-11 3/4"	16 1/2"	12 "	13/16" Dia.	1 1/4" Hole	2 1/2"	16 1/4"	3/4"x3/8"	32"x8"	3 3/16"	2800
8 Ft.	3'-11 "	22 "	12 "	13/16" Dia.	1 1/4" Hole	2 1/2"	16 5/8"	7/8"x7/16"	36"x9"	3 7/16"	3800

Table of Capacities

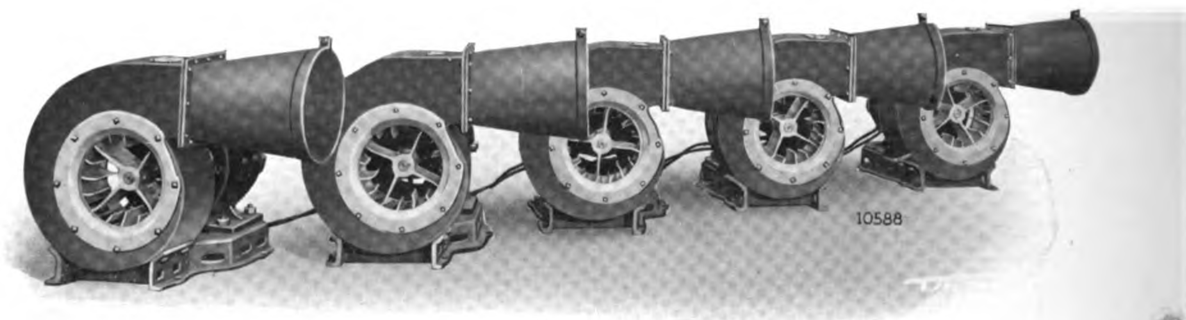
Diam. of Fan Wheel	Water Gauge	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/4"
4 Ft.	Cu. Ft.	10000	14000	17000	20000	22000	24000	26000	28000	31000
	R.P.M.	250	350	425	500	550	600	650	700	775
	B.H.P.	.4	1	2	3.2	4.4	6	7.2	9	12
5 Ft.	Cu. Ft.	15000	21000	26000	30000	34000	37000	40000	43000	47000
	R.P.M.	200	285	346	400	452	490	530	570	640
	B.H.P.	.6	1.6	3	4.7	6.7	9	12	14	18
6 Ft.	Cu .Ft.	20000	28000	34000	40000	45000	48000	52000	56000	63000
	R.P.M.	170	240	290	340	385	415	450	480	540
	B.H.P.	.8	2.2	4	6.3	9	11	14	17.6	25
7 Ft.	Cu. Ft.	27000	39000	48000	55000	62000	67000	72000	78000	87000
	R.P.M.	145	205	250	290	328	352	380	410	460
	B.H.P.	1	3	5.7	8.7	12	16	20	25	35
8 Ft.	Cu. Ft.	36000	50000	61000	75000	80000	86000	93000	100000	110000
	R.P.M.	125	176	216	250	285	305	330	353	395
	B.H.P.	1.4	4	7.2	11.8	16	20	26	32	42

Mine Ventilating Fans

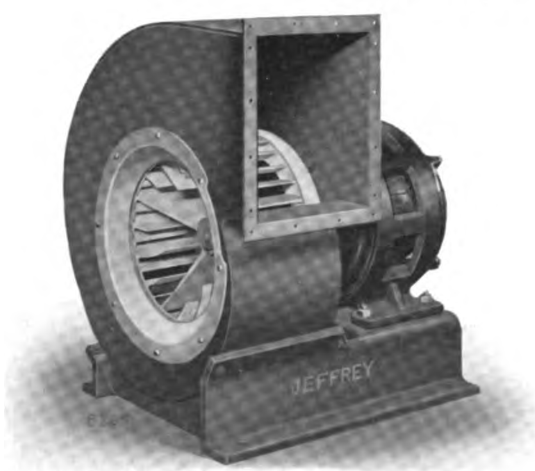
Entry Driving Fans



Assembly of Entry Driving Fans with Direct-connected Motors.



Fans are provided with Circular Discharge to connect Tubing.



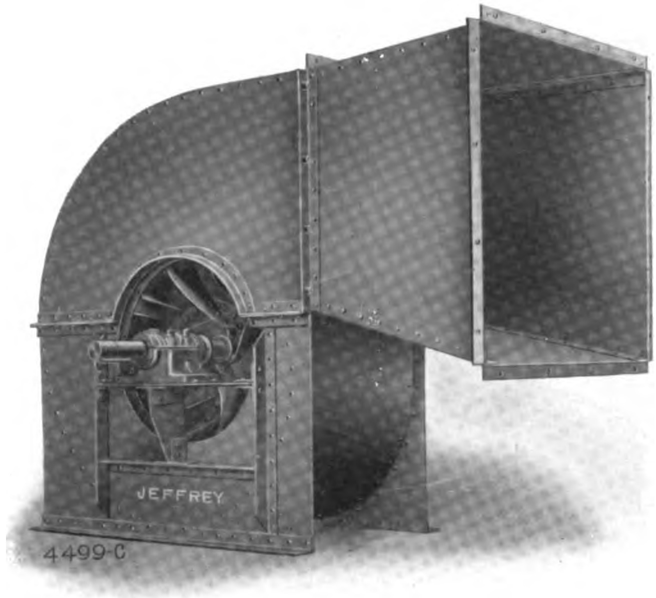
Direct-connected Blower without Circular Discharge.

Belt-driven Horizontal Discharge Blower.

IT is necessary many times to drive a double entry to get ventilation whereas a single entry is sufficient for all practical uses. In order to avoid the additional expense of double entry driving, the small compact blowers are provided with Flexoid tubing to deliver the air to the working faces. The air may be carried several hundred feet through this tubing.

Mine Ventilating Fans

Centrifugal Booster Type

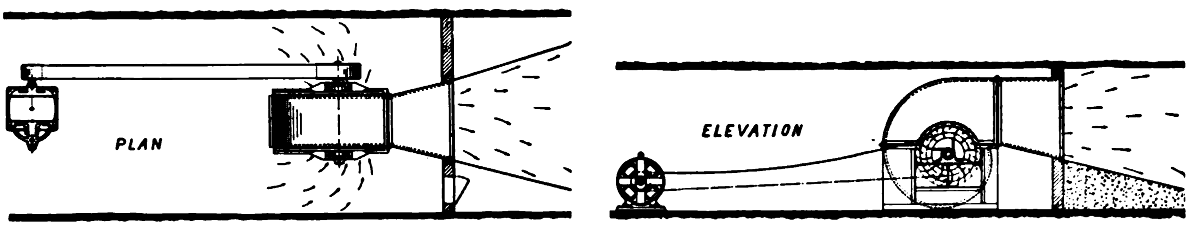


3 Ft. Double Inlet Fan.

THESE fans are being used extensively throughout the coal fields to increase the ventilation in mines having low seams and long air ways. It was formerly the custom to use the disc type of fan for this work, but with the advent of more stringent mining laws, the excessive use of blasting material and the extensive development of the mines, it is found that the propeller or disc type of fan is no longer capable of furnishing the required pressure.

These "Boosters" may be either belt driven or direct connected to motor with flexible coupling and equipped with a variable speed regulator, also automatic starter.

This Fan is highly efficient for increasing mine ventilation or may be kept as an emergency fan for fires or other necessities. The casing is provided with expansion discharge which eliminates much of the power otherwise required.



General Arrangement in the Mine of a Centrifugal Booster Equipped with Expansion Discharge.

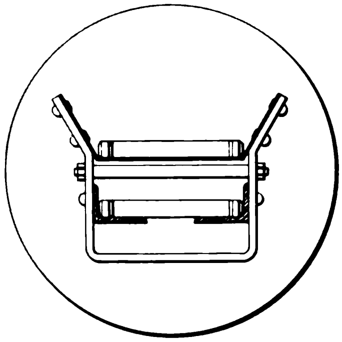
If a section of the mine is improperly ventilated due to falls and contracted air ways, install one of these boosters. An expenditure of eight or ten hundred dollars for a complete ventilating equipment, very frequently has saved several thousand dollars cleaning up a remote section of the mine.

Duties of Centrifugal Booster Fans

Size of Fan	Normal Capacity	Gauge	R. P. M.	H. P.	Pulley
2 ft.—0 in.	15000	1 in.	520	5	12 in. x 6 in.
3 ft.—0 in.	30000	1½ in.	425	15	18 in. x 7 in.
3 ft.—6 in.	40000	2 in.	410	20	24 in. x 8 in.
4 ft.—0 in.	50000	2 in.	360	25	30 in. x 9 in.
5 ft.—0 in.	70000	2 in.	290	35	40 in. x 10 in.

The above volumes are approximate, as the quantity of air delivered by a fan will depend on the mine. If the mine resistance is 3″ for 40,000 cubic feet, then you will obtain 33,000 cubic feet at 2″ gauge and it will be necessary to increase the speed of the fan, also the H. P., to deliver 40,000 cubic feet.

Longwall Conveyor



Cross-section view of Longwall Conveyor, showing the small space required for its operation.

THE Jeffrey Longwall Conveyor is made in sections so that it can be made longer or shorter to suit conditions. Where it is desirable not to drive entries and head room is limited, the Longwall Conveyor is especially suited for handling the coal from the miners to the cars.

Coal is loaded anywhere over the sides of the Conveyor as shown below and discharged over the end directly into the cars. Its use under conditions outlined above effects a saving in labor and makes it possible to handle the mined coal much more rapidly and economically.

In the illustration at the left, coal is being loaded onto the Conveyor at the face.

Discharge end of the Jeffrey Longwall Conveyor, showing the coal being loaded into the cars.

Detailed Information sent upon request.

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